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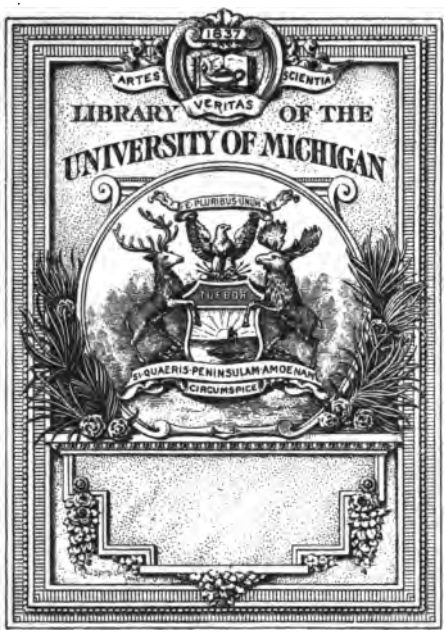
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TRANSACTIONS

OF THE

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FORTIETH ANNUAL MEETING

OF THE

OHIO STATE

MEDICAL SOCIETY

HELD AT

DAYTON,

JUNE 3rd, 4th and 5th, 1885.

COLUMBUS, O.:
PRESS OF HANN & ADAIR,
1885.

OFFICERS FOR 1885–86.

PRESIDENT.

WM. MORROW BEACH, M. D., ... LONDON

VICE PRESIDENTS.

H. Z. GILL, M. D., ... CLEVELAND

H. R. KELLY, M. D., ... GALION

THOS. McEBRIGHT, M. D., ... AKRON

J. D. ROBINSON, M. D., ... WOOSTER

SECRETARY.

G. A. COLLAMORE, M. D., ... TOLEDO

ASSISTANT SECRETARY.

E. C. BRUSH, M. D., ... ZANESVILLE

TREASURER AND LIBRARIAN.

T. W. JONES, M. D., ... COLUMBUS

COMMITTEES.

FINANCE.

S. S THORN, M. D. H. J. SHARP, M. D. G. S. FRANKLIN, M. D.
D. HALDERMAN, M. D. E. W. HOWARD, M. D.

ETHICS.

DAN MILLIKIN, M. D. R. H. REED, M. D. W. J. SCOTT, M. D.
J. A. MURPHY, M. D. W. W. JONES, M. D.

PUBLICATION.

W. H. H. NASH, M. D. W. J. CONKLIN, M. D. J. F. BALDWIN, M. D.
J. C. CULBERTSON, M. D. J. H. LOWMAN, M. D.

LEGISLATION.

H. J. DONAHOE, M. D. H. J. HERRICK, M. D. D. N. KINSMAN, M. D.
ENOCH PEARCE, M. D. TOLAND JONES, M. D.

ADMISSIONS.

P. P. POMERENE, M. D. C. A. L. REED, M. D. S. W. FOWLER, M. D.
I. N. HIMES, M. D. J. N. BEACH, M. D.

FORTIETH ANNUAL MEETING

OF THE

OHIO STATE MEDICAL SOCIETY,

HELD AT

DAYTON, OHIO,

JUNE 3, 4 AND 5, 1885.

The Society was called to order at 2 o'clock, P. M., June 3, by the President, Dr. J. C. Reeve.

Prayer was offered by the Rev. W. A. Hale.

Dr. W. J. Conklin, President of the Montgomery County Medical Society, gave the address of welcome, as follows:

The sentiment of the beautiful Oriental custom of welcoming distinguished guests with costly presents is happily perpetuated in the modern, less extravagant, but equally formal address of welcome. In compliance with this almost universal custom, it has fallen to my lot to present you, gentlemen, the fraternal greetings of the Montgomery County Medical Society, and to proffer, in her name, a hearty welcome to our city and the cordial hospitality of our homes.

It is the earnest wish of every member of the local organization that this, your third visit to Dayton, may be more enjoyable and more profitable than the other occasions upon which you honored us with your presence, and each member stands pledged to do what lies in his power that this end may be attained.

We are not here, gentlemen, as speculators in real estate, or as capitalists seeking investments, and hence it is

unnecessary to detail at length the beauties which nature and art have so bounteously lavished upon this, the "Gem City" of Ohio, of which Daytonians are justly proud, or to enlarge upon her rapid growth, her shipping facilities, her varied mercantile interests or extensive manufactories. These can be seen and read of all men.

Your mission here is a nobler one. You have come together animated by the fellowship of a common pursuit and common aims. You have come for a few days of needed rest. You have come to give one to another—co-workers in the cause—friendly greeting, and the hand-shake which has the heart in it, and, above all, you have come to exchange the nuggets of medical wisdom which have been mined in your respective leads, to the end that the cause of humanity may be advanced and human suffering alleviated.

You will all doubtless be deeply interested in the various charitable institutions, local, State and National, found in and about the city. Go and see them. You will be cordially received. You will now pardon a few words in a less genial strain. Last year, the working hours of this Association were almost wholly monopolized by a tedious and fruitless discussion upon *medical politics*. These vexed questions, whenever and wherever flaunted in the face of a medical audience, like the scarlet flag of the matador in the bull fight, become at once the signal for a fierce and interminable battle of words.

It is sincerely hoped that at this meeting the scientific work, which is the real object of our assembling, shall have precedence above everything else, and not be crowded into the last hours of an expiring session, when carefully prepared and valuable papers, if presented at all, are hurriedly read to a scattered few, standing with gripsacks in one hand and watches in the other, ready to catch a moving train.

May the same harmony, good fellowship and professional courtesy prevail here which has, at all times, characterized the meetings of this Association. It is well, however, to always keep in mind during our discussions, that it is only through still waters that you can see what lies at the bottom. In the storms of controversy there is nothing to be found but the billow that moves to mischief and the foam that disappears.

Now, gentlemen, my pleasing task is done. As the arctic twilight lingers in the sky to greet the dawn of the next returning day, so may many pleasant remembrances of your visit to Dayton linger with you and brighten your daily lives until the return of another annual meeting again calls us together.

As I began, so let me conclude, by bidding you in the name of the Society I have the honor to represent, a thrice-repeated welcome.

Dr. J. M. Weaver, for the Committee of Arrangements, reported that they had secured reduced railroad and hotel rates for delegates to the Association, the use of Association Hall; that the trustees and officers of the Dayton Asylum for the Insane had arranged a reception for the Society that night; that the Montgomery County Medical Association had made arrangements to banquet the State Association on Thursday evening; and that invitations had been received by the Committee from St. Elizabeth Hospital and the Orphans' Home for the Society to visit those institutions during their stay in the city.

Dr. T. W. Jones, Treasurer and Librarian, submitted the following report, which was referred to the Committee on Finance:

As Treasurer of the Ohio State Medical Society, I report finances of the Society to present date, June 3, 1885, as follows:

Balance on hand, per last report, June 10, '84..	$	800 82
Received as Initiation Fees and Dues.....		443 00
(Received from unknown member.....$3.00.)		
	$	1,243 82
Interest on $500 for 8 months at 6 per cent....		20 00
	$	1,263 82

CONTRA.

Expended for the use of Society since above date as follows:

June 12,—J. F. Baldwin, use of hall, etc..	$ 39 65
G. A. Collamore, salary and sundries..	103 07
J. F. Baldwin, services as editor.....	50 00
Self as Treasurer two years.....	150 00
June 28—Postage stamps.....	1 00
July 7—Hann & Adair, printers.....	10 25
Postal cards.....	1 00
August 20—J. F. Baldwin, for wood-cut	6 00
September 25—Gazette Printing House,	342 50
Postage stamps.....	24 00
October 25—Postage stamps.....	4 00
Express charges.....	75
Nov. 2—Dr. H. J. Sharp, (Committee on Leg.).....	36 78
March 11, '85—Dr. H. J. Sharp, (Com. on Leg.).....	13 50
May 26—Postage stamps.....	2 00
June 1—Postal cards and stamps.....	1 50
	$786 00
Balance on hand.....	$ 477 82

I further report as Librarian: Transactions of this Society, on hand, dated 1859 to 1880, inclusive, 125 copies.

Transactions of 1881 and 1882, 175 copies.

Transactions of other State societies for past several years, in exchange for transactions of this Society, about 50 copies; also, a number of miscellaneous journals, reports of Boards of Health, etc. Quite a number of Constitutions and By-Laws in pamphlet form—50.

Transactions of different State societics, past year, 25 copies.

Transactions of this Society, past year, on hand, 170 copies. Respectfully,

T. W. JONES, *Treasurer.*

The Secretary submitted the following report:

Mr. President and Gentlemen:

In the Transactions of 1882, the membership of this Society is given as 540, of whom 13 were non-resident. Since that time it has increased by 79 new members admitted at last meeting, and 4 old members restored to membership, in all 83, while it has been diminished by 47 forfeited membership, 8 died, one expelled, 56 in all, showing a net gain of 27, and a present total of 567, of whom 12 are non-resident.

This forfeiture of membership, which annually works serious loss both to the members and the finances of the Society, deserves, in my judgment, serious consideration. It is not presumed that members allow their names to be dropped from the roll through any desire to abandon their connection with the Society, but usually through neglect to forward their dues to the Treasurer, not being present at the meetings. I would, therefore, suggest that this matter be referred to your Committee on Finance, to devise some means, either by authorizing Secretaries of local Societies to receive and forward such dues, for which services they may, if you please, deduct a certain percentage, or such other plan as may seem best for the interest of this Society. Besides the loss of 47 members during the last year, the treasury has suffered to the amount of not less than one hundred and forty-one dollars in income. Surely, an effort to reduce these losses is worthy of your consideration.

Another question effecting membership has been presented. The Constitution requires that Permanent Members "shall be members of a county or district Society where they reside." There are at least eighteen counties which have no county Societies and are not embraced within the limits of any District Society. The question arises whether applicants for membership from these counties can be admitted under the Constitution. To remove all possible doubt on the subject, I would recommend the adoption of the following amendment to Art. III, Sec. 5, of the Constitution, to be inserted in its proper place: "provided there is any County or District Society accessible to them," or words to that effect.

The deaths which have come to my knowledge since last report, are of your honorable Vice-President, E. B.

Pratt, Mt. Sterling; Frederick Hohly, Toledo; James Ewing, Hebron; T. L. Neil, Dayton; J. S. Bevington, Freedom; J. L. Firestone, Salem; W. M. Ross, Millersburg; A. B. Hovey, Tiffin; J. B. Thompson, Columbus; H. G. Cornwell, Los Angeles, Cal.

Obituary notices of Drs. Hohly, Bevington, Ewing, Pratt, Firestone, Hovey and Kemp have been received.

In addition to the list of Auxiliary Societies noted in last Report as *defunct* the following may be named:

Darke Co. Medical Society,
Greene Co. Medical Society,
Guernsey Co. Medical Society,
Hocking Valley Medical Society,
Richland Co. Medical and Surgical Society,
Summit Co. Medical Society,

I therefore recommend that these Societies be dropped from the roll of Auxiliary Societies.

Proposals to become Auxiliary Societies have been received from the "Hempstead Academy of Medicine" and "Midland Medical Society," with copy of Constitution and list of members enclosed.

Annual Catalogues have been received from all Auxiliary Societies except the following:

Ashland Co. Med. Society, Delaware Co. Med. Ass'n, Lawrence Co. Ass'n, North Eastern Ohio Med. Ass'n, Wood Co. Society, Allen Co. Society, Miami Co. Med. Chirurg. Society.

The following bills have been countersigned:

Rent of Hall, etc., for Meeting of 1884, approved by Committee on Arrangements	$39 65
Salary of Treasurer and Librarian	75 00
" " Secretary	75 00
Necessary expenses of Secretary, as per statement in last Report	28 07
Expenses of Special Committee on Board of Examiners Bill	50 00

With regard to the last mentioned bill I wish to make the following statement: Early in the work of this Committee a question arose between its Secretary and the Secretary of your Society as to the payment of the expenses to be incurred by this Committee.

The Secretary of the Committee contended that the Society, "by the appointment of a *Special* Committee,

with *specially designated* function," "were bound for such expenses as would be necessary in prosecuting its work; hence it was thought best not to introduce a resolution" (at the meeting of the Society) "to give this Committee authority to draw upon the funds of the Society, to defray the expenses of the Committee in this work, in a sum not exceeding five or six hundred dollars." He therefore wished to ascertain whether the bills of the Committee would be countersigned by me, in order that they might be paid by the Treasurer.

Your Secretary, being somwhat in doubt, as the Constitution does not prescribe what bills he shall countersign, finally took the view that his functions in this matter more nearly resembled those of an auditor, and that his duty in the premises was to countersign such bills as were to him officially known to have been contracted by the Society, or contemplated by the Constitution, and no others: but, in view of the necessity for some funds for printing, etc., for this Committee, he agreed to countersign bills to the amount of fifty dollars on his own responsibility.

As this question involves the financial affairs of the Society, I would suggest that it be referred to the Committee on Finance for a report, which shall define the duty of the Secretary in this particular.

The necessary expenses of the Secretary for the past year have been as follows:

Express	$00 25
Stationery	00 62
Postage Stamps, Envelopes and Postal Cards	18 01
Printing	18 50
Certificates for D. & T. and D. & I. R. R.	1 00
Total	$38 38

Since the publication of the programme the following titles of papers, to be read at this meeting, have been received:

"Aphonia: illustrated by three cases;" A. B. Thrasher, M. D., Cincinnati.

Respectfully submitted,

G. A. COLLAMORE, *Secretary.*

The recommendations of the Secretary's Report were referred to the Committee on Finance.

On motion of Dr. H. J. Sharp, it was voted that the annual assessment be fixed at one dollar.

The Committee on Publication presented the following Report:

COLUMBUS, OHIO, June 3, 1885.

Committee met at Lyndon Hall, on June 14, 1884, and organized by electing Dr. J. F. Baldwin Chairman.

The rules of the Committee, as to reprints, engravings, and publication of papers in medical journals, were re-adopted for the current year.

A sub-committee, to superintend the getting out of the *Transactions*, was elected, consisting of the Chairman and Dr. W. H. H. Nash. Adjourned.

Although bids were solicited from all the printing houses in the city, but three were received.

Bids were based on an estimate of 500 copies, of 250 pages, same paper, type and binding as in previous year, with 50 reprints, bound in paper covers, of each paper published.

Chas. M. Cott & Co.....	$375 00
Hann & Adair.....	338 00
Gazette Printing Co., for books only...	234 00

Fifty copies reprints, 20 cents per page.

As the aggregate bid of the Gazette Co. was the lowest, it was accepted, and the work was done in a satisfactory manner; the entire bill amounting to $342 50.

Respectfully submitted,

J. F. BALDWIN, M. D., Chairman.

Dr. Baldwin also reported that he had been appointed some time ago, a special committee to secure, if possible, a complete file of the Transactions of the Society. He had now to report that he had secured such a file, some weeks before his death, from the late DR. JOHN B. THOMPSON. The donor accompanied his gift with the following characteristic note to the Society;

"*To the Members of the Ohio State Medical Society, Greeting:*

"In consideration of your many manifestations of esteem and regard which I have received in the years that

are past, and as a token of my appreciation of them, I take pleasure in herewith presenting you with the, as I believe, only complete file of your Transactions now in existence.

"And in presenting these volumes let me assure you that there goes with them an earnest prayer for your continued honor and prosperity.

"Fraternally yours,

"J. B. THOMPSON, M. D."

Referred to Committee on Finance.

Dr. J. M. Weaver presented the report of the Committee on State Board of Examiners Bill, as follows:

Mr. Chairman and Gentlemen of the Ohio State Medical Society:

Your Committee, to whom was assigned the work of looking after the legislative interests of the proposed Bill to create a State Board of Medical Examiners have to report briefly as follows:

1st. In order to procure the opinion of the profession throughout the State, a reprint of the Bill was circulated very extensively among the physicians in every part of the State, with an accompanying circular requesting from each one who should receive a copy, an opinion as to the merits of the Bill, together with his approval or disapproval of the same.

The responses to this circular were very general, and with some suggestions as to minor changes in the text of the Bill, were almost unanimous in approving it.

2nd. The Committee took steps to procure the names of the family physicians of members of the Legislature, and was successful to a large extent. This was successful in revealing two things: that members employ, as family physicians, the regular profession very largely, there being among the large number reported, only four or five Homeopaths, one Eclectic and one Vito-pathic, and, secondly, that the family physicians were nearly unanimous in endorsing the Bill, and promised to use their influence with their patrons in the Legislature to procure its passage.

3d. A copy of the Bill was sent to the local Medical Societies of the State, asking that the Societies take action endorsing it.

The following Societies reported unanimous indorsement of the Bill:

Ohio State Sanitary Association.
Ohio State Homeopath Society.
Hardin County Medical Society.
Holmes County Medical Society.
Lebanon Medical Society.
Madison County Medical Society.
Mahoning County Medical Society.
Marion County Medical Society.
Butler County Medical Society.
Central Ohio Medical Society.
Cincinnati Medical Society.
Montgomery County Medical Society.
Morrow County Medical Society.
North Central Ohio Medical Society.
North-Western Ohio Medical Society.
Ross County Medical Society.
Tuscarawas County Medical Society.

Others, among them the North-Eastern Ohio Medical Society, appointed committees to work in the interest of this or something similar, by co-operation with your *Special Committee*.

The only Society reporting rejection of a resolution of indorsement, was Union County Medical Society.

The following Medical Journals and Schools reported in favor of the Bill:

Columbus Medical Journal.
Cincinnati Medical Journal.
Hahneman Medical College, Cleveland.
Pulte Medical College, Cincinnati.
Starling Medical College, Columbus.
Columbus Medical College, Columbus.
Medical Department Western Reserve University, Cleveland.
Cincinnati College of Medicine and Surgery.

Opposed:

Illegal Practitioners.
Eclectic Medical Institute, Cincinnati.
Ohio Medical College, Cincinnati.

Uncertain:

Miami Medical College, Cincinnati.
Lancet and Clinic, Cincinnati.

It will be seen by the foregoing that the Committee performed a large amount of work, and that no Bill, having in view influences affecting the Medical profession, has ever been submitted with fairer hope for the support of our Legislators.

This report, however, would be incomplete without reference to the factors that operated to defeat the measure. And, first among these, I may name what should seem very anomalous, the strongest factor that we had to contend with were the ten *so-called regular Doctors* in the House. We had already assurances through their constituents of the medical profession, of members in different counties, that we might depend upon, at least, forty-five votes in the House, and these with the physicians would carry it through the House. So our Committee met in Columbus early in the session and attempted by a meeting with the *doctors* of the House, to harmonize them upon some Bill; but there seemed such complete indifference to any legislation pertaining to the interests of the medical profession, that we did not succeed to any extent. We left the matter in the hands of two or three who seemed favorable, but after six weeks, instead of the prospects brightening, it became evident that we could not do anything in the House; for in this branch there was Dr. Sherman (better known, I believe, by our Cincinnati friends as "*The Ripper Doctor*," from Portage,) who "dog-in-the-manger" like, was "constant in season and out of season" in berating our Committee, under cover of advancing the interests of his own *aborted conception, i. e.*, a Bill providing for an Examining Board in each Congressional district, composed of three physicians of different schools of practice—an idea so absurd that there is no evidence that it was endorsed by a single Medical Society in the State. The Committee have reasons to believe that the Doctor's opposition was stimulated by the "*ripper*" influence in certain localities.

In the Senate, Dr. Lewis—Eclectic, who seemed to dominate matters medical in this body—although Dr. Myers, who was chairman of the committee to which the Bill was referred, is a regular physician—succeeded in getting his work in, in preventing favorable consideration. It is, however, due to Dr. Myers, and the friends of the Bill, to say that for the last six weeks of the session he was confined to his room in his hotel, and thus unable to get to

the Senate; the chairmanship of his committee thus devolved upon Dr. Lewis, which gave him about full control. So on a vote that I advised Senator Durflinger to force, the measure was defeated by two or three votes.

The advice of your Committee would be, that before the Medical profession undertakes to secure legislation appertaining to its interests, first, endeavor to prevent Doctors from getting into the Legislature; then ask for nothing, and you will get what you ask for.

However, I have no doubt but had there been no Doctors in either House we would have succeeded in securing the passage of this Bill.

H. J. SHARP, Secretary,
Special Committee on Legislation.

The report of the Committee on General Collective Investigation of Disease was made by Dr. H. Z. Gill.

On motion of Dr. R. H. Reed it was voted that the President appoint a Committee on General Collective Investigation of Diseases; that said committee be selected so that it shall consist of one member from each county, said member to be chosen from a County Society or this Society, when possible, but otherwise to be the best physician accessible in the county in question.

The President presented the following communication:

AMERICAN MEDICAL ASSOCIATION,
PHILADELPHIA, June 1, 1885.

DR. J. C. REEVE,
President Ohio State Medical Society—

Dear Sir:

I would respectfully request you to call the attention of your Society, through this note, to the fact that at the meeting of the American Medical Association held at Washington, in May, 1884, an Amendment to Regulation II was adopted, which provides that membership in the Association shall be obtainable by any member of a State or County Medical Society recognized by the Association, upon application endorsed by the President and Secretary of said Society; and shall be retained so long as he shall

remain in good standing in his local Society and shall pay his annual dues to the Association. Hitherto attendance as a delegate at an annual meeting has been necessary in order to obtain such membership.

Application for membership, accompanied with five dollars, for annual dues, should be sent directly to the undersigned, on receipt of which the weekly Journal of the Association will be forwarded for one year.

Yours respectfully,

RICHARD J. DUNGLISON,
Treasurer American Medical Association.
Lock Box 1274, *Philadelphia.*

The President appointed the following members to fill vacancies in committees:

Committee on Admissions and Medical Societies.— Drs. R. E. Jones, J. H. Rogers, and T. McEbright, *vice* Drs. J. N. Beach and P. P. Pomerene, *absent,* and J. B. Thompson, *deceased.*

Committee on Finance.— Drs. H. Z. Gill, A. H. Brundage, and S. C. Dumm, *vice* Drs. D. Halderman, G. Mitchell and S. S. Thorn, *absent.*

The report of the Committee on Medical Legislation was made by Dr. H. J. Herrick.

Dr. C. A. L. Reed, of Hamilton, read a paper on "Pelvic Hematocele." Discussed by Drs. H. J. Herrick, D. N. Kinsman, J. Corson, R. H. Reed, A. Dunlap, N. Gay, and A. C. Miller.

Dr. C. D. Palmer, of Cincinnati, read a paper on "Rare Complication after Ovariotomy." Discussed by Drs. A. Dunlap and A. C. Miller.

To fill vacancies in Committee on Ethics, the President appointed Drs. Dan Milliken, W. C. Chapman, A. C. Miller and C. D. Palmer, *vice* Drs. W. J. Scott, J. A. Murphy, W. W. Jones and H. Culbertson, *absent.*

Society adjourned to 9 o'clock A. M., June 4th.

SECOND DAY—MORNING SESSION.

President Reeve in the Chair.

On motion of Dr. J. M. Weaver, it was voted to adjourn immediately after the completion of executive business this afternoon for the purpose of visiting the Soldiers' Home.

The Committee on Finance presented the following report, which was adopted:

The Committee on Finance—Drs. Sharp, Franklin, Gill, Brundage, and Dumm—met at 4 P. M., June 3d, and organized by electing Dr. H. J. Sharp as Chairman, and Dr. G. S. Franklin as Secretary.

On motion it was resolved that the full set of Transactions of the Ohio State Medical Society donated to this Society by Dr. Thompson, be deposited with the State Librarian at Columbus, and that hereafter a copy of each yearly issue of said Transactions be also deposited in the same place.

On motion it was resolved that the thanks of this Society be tendered the widow of Dr. Thompson, as his representative, by the President and Secretary.

On examination of Treasurer's report we find vouchers for all expenditures.

On examination of Secretary's report we find that his statements coincide with those of the Treasurer as to financial matters.

On examination we find the report of the Committee on Publication to agree with the vouchers presented by the Treasurer.

On motion it was resolved that the Treasurer be instructed to enclose annually to all delinquents a printed stamped return envelope, along with a statement of each delinquent's account and a request to be informed if said delinquent wishes his name erased from the rolls of the Society in accordance with the provisions of the Constitution. No answer to this request to be considered as indicating a desire to be dropped from the roll at the prescribed limit.

There being no further business the Committee then adjourned to June 4th, 1885.

H. J. SHARP, Chairman.

G. S. FRANKLIN, Secretary.

The Committee on Admissions made a report recommending certain applicants for admission, with the exception of Dr. F. E. McKim, of Marietta, who was not recommended for the reason that he did not belong to a local Society, there being none in his county or district. Adopted.

Dr. G. A. Collamore offered as an amendment to the Constitution, Article III. Section 5, to insert after the words, "Permanent Members * * shall be members of a county or district Society where they reside" the words "provided there is any county or district Society accessible to them."

After discussion by Drs. D. J. Merriman, S. S. Scoville, J. F. Baldwin and S. B. Hiner, the amendment was lost.

Dr. R. H. Reed moved that the Committee on Board of Examiners Bill be continued one year. Carried.

Dr. X. C. Scott moved that the Society appropriate funds to pay the expenses of this Committee.

After discussion by Drs. J. Morris and G. S. Franklin, the motion was lost.

Dr. J. M. Weaver moved that the Committee be discharged.

Discussed by Dr. G. S. Franklin and lost.

Dr. Franklin moved that a sum of money, not to exceed five hundred dollars, be set aside for the purpose of paying the necessary expenses of this Committee; the accounts to be revised by the Committee on Finance.

After discussion by Drs. H. J. Sharp, J. A. Wilkins, X. C. Scott, H. J. Herrick, J. M. Weaver and R. H. Reed, the motion prevailed.

Dr. R. H. Reed read a paper on "Vitiligo."

Dr. P. S. Conner read a paper on "Vesical Explorations." Discussed by Drs. D. Halderman, S. S. Thorn, and J. Ransohoff.

Dr. Dan Millikin, of Hamilton, read a paper on "Empyema: its Treatment by Daily Aspiration through a Drainage Tube." Discussed by Drs. E. F. Wells, P. S. Conner, J. Ransohoff and D. N. Kinsman.

Dr. S. C. Ayres read a paper, prepared by himself and Dr. H. J. Sharp, on "A Case of Diabetes with Eye Complications." The patient was presented and present condition shown and explained by Dr. Sharp.

Society adjourned to 2 o'clock P. M.

AFTERNOON SESSION.

The Society was called to order at 2 o'clock, P. M., Vice President J. F. Baldwin in the chair.

The President, Dr. J. C. Reeve, read his "Annual Address."

On motion of Dr. S. W. Fowler, it was voted to reconsider the motion to adjourn after completion of executive business; and the original motion to adjourn was lost.

The Society then proceeded to the election of officers for the ensuing year, which resulted as follows:

President—Wm. Morrow Beach, London.

Vice Presidents—1st, H. Z. Gill, Cleveland; 2nd, H. R. Kelly, Galion; 3d, T. McEbright, Akron; 4th, J. D. Robinson, Wooster.

Secretary—G. A. Collamore, Toledo.

Assistant Secretary—E. C. Brush, Zanesville.

Treasurer and Librarian—T. W. Jones, Columbus.

Committee on Finance—S. S. Thorn, Toledo, *5 years;* E. W. Howard, Akron, *1 year.*

Committee on Ethics—Dan Millikin, Hamilton, *5 years.*

Committee on Publication—W. H. H. Nash, Columbus, *5 years.*

Committee on Medical Legislation—H. J. Donahoe, Sandusky, *5 years.*

Committee on Admissions and Medical Societies—P. P. Pomerene, Berlin, *5 years*; I. N. Himes, Cleveland, *2 years.*

By invitation, Akron was selected as the place for meeting in 1886, and the time was appointed for the first Wednesday in June, at 2 o'clock, P. M.

The Committee on Ethics reported as follows:

The accompanying charges preferred against Dr. J. P. Wallace, of Bellefontaine, by Dr. P. D. Covington, of the same city, have been placed in the hands of the Committee on Ethics, who, after due consideration, would respectfully recommend that they be referred to the Logan County Medical Society for adjudication. Respectfully submitted,

R. HARVEY REED,
Chairman of Com.

Report adopted.

A paper was read by Dr. I. N. Himes, of Cleveland, on "Cases Connected with Life Insurance Examinations and Remarks."

Dr. G. W. Ryan, of Cincinnati, read a paper on "Treatment of Spinal Irritation."

Dr. Philip Zenner, of Cincinnati, read a paper on "Diseases of the Spinal Cord."

Dr. W. T. Corlett, of Cleveland, read a paper on "Diseases of the Skin of Reflex Nervous Causation."

The last three papers were discussed by Drs. R. H. Reed, D. H. Brinkerhoff, H. J. Herrick, W. M. Beach, H. Z. Gill and D. Halderman.

Dr. J. Ransohoff, of Cincinnati, read a volunteer paper on a "Case of Urethral Calculus."

Society adjourned to 9 o'clock, A. M., June 5.

THIRD DAY.

Dr. N. P. Dandridge, of Cincinnati, read a paper on "Clinical Notes on Osteotomy, with Report of Cases."

Discussed by Drs. P. S. Conner, H. J. Herrick, J. Ransohoff and G. W. Ryan.

Dr. R. B. Hall, of Chillicothe, read a paper on "Abdominal Sections."

Dr. C. H. Von Klein, of Dayton, read a paper on "Voice."

Dr. H. J. Herrick, of Cleveland, read a volunteer paper on "Dietetics of Typhoid Fever."

A communication from the American Medical Association, with Bill for Establishing a State Board of Medical Examiners, etc., was, on motion, referred to the special committee on that subject.

The following communication from the Nebraska State Medical Society was read by the Secretary:

To the President and members of the Ohio State Medical Society, in care of the Secretary:

GENTLEMEN:—You are hereby respectfully informed that Charles S. Hart, M. D., of Lincoln, Nebraska, was appointed your legal representative in the Nebraska State Medical Society.

Please present to him such credentials as will enable him to attest your approval of the choice made in your behalf.

For the Nebraska State Medical Society:

SEAL.

F. G. FULLER, *President.*
A. H. MANSFELDE, *Perm. Secretary.*

On motion of Dr. J. F. Baldwin, the Secretary was instructed to present to Dr. Hart the requisite credentials.

The following is the consolidated report of the Committee on Admissions and Medical Societies, which was adopted, and the following were elected members of the Society:

NAME.	P. O. ADDRESS.	COLLEGE.
Adams, P. N.	Dayton	Starling Medical College
Allen, Dudley P.	Cleveland	Harvard Med. School
Bain, F. D	Kenton	Bellevue Hosp. Med. Col
Buckingham, John M	Springfield	Jefferson Med. College
Chapman, Byron	Copley	Med. Dept. West. Reserve
Clark, C. F.	Columbus	Jefferson Med. College
Cook, Alta F	Sandusky	University of Michigan
Cook, G. F	Somerville	Ohio Med. College
Cowan, Chas. S	Hardin	Miami Med. College
Crum, Edward C.	Dayton	Miami Med. College
Dimond, Henry C.	Springfield	University of Penn'a
Dissinger, H.	Canal Fulton	Ohio Med. College
Dun, Walter A.	Cincinnati	Miami Med. College
Everts, Orpheus.	College Hill	Indiana and Rush Med.Col
Freeman, George	Richmond Dale	Ohio Med. College
Grill, S. P	Orrville	Ohio Med. College
Haldeman, J. S	Zanesville	Starling Med. College
Heffner, C. W	Bellefontaine	Jefferson Med. College
Hoover, C. M	North Benton	Cleveland Med. College
McKean, Wm.	Dundee	Jefferson Med. College
McNeeley, J. S.	Hamilton	Col.of Physicians and Sur.
Macready, J	Monroe	Ohio Med. College
Millikin, B. L.	Cleveland	University of Penn'a
Millikin, C. W.	Middleburgh	University of Penn'a
Patterson, James W	Olena	Cleveland Med. College
Petitt, R. R	Dayton	University of Michigan
Pope, F. F. H	Dalton	Wooster University
Santee, Leon B.	Marlborough	University of Penn'a
Scheibenzuber, A.	Dayton	Vienna
Seys, Henry H.	Springfield	University of Maryland
Sharp, B. M	Sidney	Columbus Med. College
Smith, William G.	Palmyra	Miami Med. College
Spencer, E. R.	Doylestown	University of Penn'a
Uhler, H. L	Marion	Jefferson Med. College
Vail, J. B.	Lima	Ohio Med. College
Van Winkle, N. B.	Blanchester	Miami Med. College
Wagenhals, F.	Columbus	Starling Med. College
Williams, A. L.	North Lewisburg	Starling Med. College
Wire, G. W	Wilmington	Miami Med. College
Wright, John A.	Toledo	Miami Med. College
Wright, John W	Columbus	Cin. Col. Med. and Surg.

The committee find that the following Auxiliary Societies are represented by delegates:

Academy of Medicine of Cincinnati—Jos. Ransohoff, T. A. Reamy.

Butler Co. Med. Soc.—J. S. McNeeley.

Central Ohio Med. Ass'n—S. C. Dumm.

Champaign Co. Med Soc.—A. L. Williams.

Clark Co. Med. Soc.—John M. Buckingham, H. H. Seys.

Clermont Co. Med. Soc.—J. W. Hulick.

Columbus Medical Club—F. S. Wagenhals, J. W. Wright.

Holmes Co. Med. Soc.—F. J. Guittard.

Lake Co. Med. Soc.—C. F. House, D. J. Merriman.

Madison Co. Med. Soc.—W. Morrow Beach.

Montgomery Co. Med. Soc.—R. R. Petitt, J. A. Romspert, S. G. Stuart, C. H. Von Klein.

Sandusky Co. Med. Soc.—D. H. Brinkerhoff.

The following Societies were also represented by delegates:

Midland Medical Society—O. W. Marshall.

Piqua Society of Clinical Medicine—S. S. Gray.

Zanesville Medical Society—E. C. Brush.

The Committee also recommend that the following Societies be made auxiliary to this Society:

Hemstead Academy of Medicine.

Lake County Medical Society.

Columbus Medical Club.

The Committee reported unfavorably to the application of the Midland Medical Society of Fayette and adjoining counties to be made auxiliary, for the reason that its constitution did not embrace the Code of Ethics of the American Medical Association.

The President-elect, Dr. W. Morrow Beach, was presented to the Society and spoke as follows:

Gentlemen of the State Medical Association:—My election yesterday, and the manner in which it was done, was to me a very complete surprise, but I must say that my surprise was fully equalled by my personal gratification. I can truly say to you, gentlemen, that I bring to the society no hatreds, no old scores to settle, but I bring only

a feeling of personal good will to each and every member of the State Medical Society. I shall, to the best of my ability, try, as your president for the next year, to be impartial in so far as any power is vested in me as your presiding officer. I shall look only to the best interests, to the growth, and the peace and harmony of the society.

The President then addressed the Society as follows:

Gentlemen:—Before the Society finally adjourns allow me to congratulate you on the complete success of this meeting. The amount of work done is creditable. The proceedings have all been harmonious. It only remains for me to say to you that I thank you sincerely for your kindness in placing me in the position of your president. Also I wish to thank you for your kind forbearance. I entered upon the discharge of my duties with very little knowledge of parliamentary law, and no experience in presiding over a deliberative body. I approached my duties with a great deal of anxiety, but your kind forbearance has rendered my duties pleasant. Once more allow me to congratulate you on the success of our meeting, and to assure you that I shall always remember my presidency of the Ohio State Medical Society with both pride and pleasure.

The Society then adjourned to meet in Akron on the second day of June, 1886, at 2 o'clock P. M.

G. A. COLLAMORE,
Secretary.

J. C. REEVE,
President.

LIST OF AUXILIARY SOCIETIES.

WITH DATE OF ADMISSION.

Academy of Medicine of Cincinnati..... 1875
Allen County Medical Society..... 1867
Ashland County Medical Society 1865
Ashtabula County Medical Society..... 1878
Athens County Medical Society 1866
Bay City Medical Society..... 1880
Brown County Academy of Medicine 1877
Butler County Medical Society 1852
Central Ohio Medical Society 1869
Champaign County Medical Society..... 1853–1879
Cincinnati Medical Society..... 1875
Clark County Medical Society..... 1849–1852–1877
Clermont Medical Association..... 1854
Clinton County Medical Society 1879
Columbus Medical Club 1885
Cuyahoga County Medical Society 1879
Defiance County Medical Society 1881
Delamater Medical Association of Norwalk and vicinity 1859–1870
Delaware County Medical Association 1854–1875
Erie County Medical Society..... 1850–1877
Fulton County Medical Society..... 1870
Gallia County Medical Society..... 1884
Geauga County Medical Society 1882

Hardin County Medical Association..... 1884
Hemstead Academy of Medicine 1885
Highland County Medical Society..... 1877
Holmes County Medical Society..... 1869
Jefferson County Medical Society 1859
Knox County Medical Society 1863
Lake County Medical Society 1885
Lawrence County Medical Society 1877
Licking County Medical Society 1877
Lebanon Medical Society..... 1879
Logan County Medical Society 1875–1877
Madison County Medical Society 1881
Mahoning County Medical Society 1879
Marion County Medical Society..... 1879
Meigs County Medical Association..... 1850
Miami County Medico-Chirurgical Society..... 1851
Miami Valley Medical Society..... 1879
Montgomery County Medical Society 1851
Morrow County Medical Society 1878
North Central Ohio Medical Society..... 1881
North-Eastern Ohio Medical Association..... 1870
North-Western Ohio Medical Association 1869
Pickaway County Medical Society..... 1856–1878
Portage County Medical Society..... 1869
Preble County Medical Society 1849
Ross County Medical Society 1876
Sandusky County Medical Society..... 1880
Seneca County Medical Society..... 1854–1879
Shelby County Medical Society..... 1852
Stark County Medical Society..... 1850–1852
Stillwater Medical Society..... 1873

Toledo Medical Association..... 1857
Trumbull County Medical Society..... 1868
Tuscarawas County Medical Society..... 1851
Union County Medical Society..... 1882
Union Medical Association of Columbiana and adjoining Counties..... 1879
Wayne County Medical Association..... 1850
Wood County Medical Society..... 1877

OHIO STATE MEDICAL SOCIETY.

At the Seventeenth Annual Session of the Ohio State Medical Society, the following resolution was adopted:

Resolved, That the publication of any address, prize essay, or other paper, by this Society, is no evidence of its endorsement of the sentiments therein contained.

THE PRESIDENT'S ADDRESS.

SOME OF THE LATEST SYSTEMS IN MEDICINE.*

BY J. C. REEVE, M. D., DAYTON, OHIO.

The history of a science is a history of the human mind in its progress along a certain line. It shows by what stumbling steps, by what gropings through fogs of error, advance has been made. Medicine, like other branches of human knowledge, illustrates this. It has undergone evolution; the process is still going on—therefore it is not yet perfect. In its past, then, there has been much of error, and in its present there is much to be desired. Yet neither as to past or present has medicine anything to fear from comparison with other professions. A perfect form of government has not yet been devised. As bitter things have been said of the law, its delays and uncertainties, as of medicine, while its volumes upon volumes of conflicting and overruling decisions bear witness to its imperfections. Religious wars and religious persecutions furnish some of the darkest pages of human history, while the numerous spires of every city and village attest the diversity of interpretation of the revealed Word.

To-day I ask your attention to some points in the preceding stages of the progress of medicine, which present much of interest and of profit, and a study of which is essential to a comprehension of the medicine of to-day.

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*The period of time passed over in this sketch, and the number of points touched upon, render it impossible to give references in every instance. The facts have been derived from the following works:

RENOUARD; History of Medicine; translated by COMEGYS.

SPRENGEL; Geschichte der Arzneikunde.

HECKER; Geschichte der neueren Heilkunde.

FONSSAGRIVES; Principes de Therapeutique General; Introduction; Deuxieme Ed.

TROUSSEAUX ET PIDOUX; Traite de Therapeutique, etc.; Introduction; Huitieme ed.

BOUCHUT; Histoire de la Medicine et des Doctrines Medicales.

CANABIS; Revolutions de la Medicine.

BAUER; Geschichte der Aderlasse.

One fact in the history of medicine stands prominent—it has always taken on the character of the age. In ancient times, and indeed down to a comparatively recent period, it was made a part of philosophy, and the history of one was the history of the other. Forced, then, to take its place in a rigid framework of doctrines, which included the mental, moral and physical world, and explained the economy of the universe, it had no independent existence, and moved but as a puppet. Again, it has always varied with the changes which its allied sciences have undergone. Thus, when chemistry was making brilliant discoveries, pathology and therapeutics became largely chemical; when physics was making rapid progress, vital actions, normal and abnormal, took on a mechanical aspect; under the influence of the discoveries of Newton, and the doctrines of Des Cartes, an attempt was made to give them even a mathematical character.

Medicine to-day takes on the character of the age. It is active, enterprising, practical and scientific. It is scientific, so far as our knowledge permits; in spirit, it is entirely so, for it uses instruments of precision as far as possible, and much more than ever before. It accepts no statements that are not sustained by experiment or confirmed by numerous observers. Like the age, it is advancing, and more rapidly than ever before in its history. He would have been a bold man, who had stood up at our last meeting and proclaimed that the days of ether and chloroform for eye surgery had passed away. The brilliant discovery of the past year is but one example of the progress our art is making.

With these positive features of the medicine of to-day, allow me to contrast one negative. It is, the absence of any general theory of disease, or of the action of remedies. In no other point is there greater contrast between the medicine of the past and of the present than in this. We have no "system" of medicine. Upon this point the public is sadly ignorant. We are called "allopaths" by those who do not know what the term implies, and by those whose interest it is to make us out as narrow as themselves. The truth is, in the treatment of disease we are guided by the teachings of experience—not by theory.

What is a "system" in medicine? A set of hypothetical explanations of the nature and processes of disease,

upon which are based dogmatic rules for the administration of remedies. A system differs from a theory or hypothesis in this, that the temporary and provisional use of these is recognized, while the doctrines of the other are accepted as final. Theory and hypothesis are the steps by which scientific men reach knowledge; the dogmas of a system are held by its disciples to be ultimate truth. When theories no longer agree with facts, they are abandoned; if facts do not agree with a system, so much the worse for the facts. Theories and hypotheses are the servants of the human mind; a system is its master.

The past of medicine is full of systems. They have been the curse of the profession, if not of the human race. They have led to such exaggerations of the value of some remedies, and such excesses in certain lines of treatment, as to give foundation for some of the bitterest sarcasms which have been directed against our art. Under some systems, the treatment of disease was but pure expectancy, then medicine at the bed-side was justly termed, "a meditation upon death," and the biting sarcasm of Goethe's Mephistopheles was fully justified.* Under others, excessive activity with powerful remedies was the rule; then the physician was likened to a blind man striking with a club, sometimes hitting the disease, oftener the patient. In the history of medical systems you will find that the Dr. Sangrado, of Le Sage, was not a mere creature of the imagination, and that the characters of Moliere were actors on the stage of real life.

It is to some of these systems that I would direct your attention to-day. The latest that figured in the history of medicine are four. They are the systems of John Brown, of Broussais, of Rasori, and of Hahnemann. What were the doctrines of these systems? What influence did they exert upon medical progress? What impression did they make on therapeutics? What remains of them now?

In regard to all these systems the following general statements may be made: 1. They had their origin in the unsatisfactory and imperfect state of medicine at the time. 2. Each of them contained doctrines as erroneous and exaggerations as great as any existing in the prevailing

*"Der Geist der Medecin is leicht zu fassen;
Ihr durchstudirt die grosse und kleine Welt,
Um es am Ende geh'n zu lassen,
Wie's Gott gefællt."

practice. 3. Each contained a measure of truth, small though it may have been, and this has passed into the general domain of medicine, while the residue has passed, or is passing, to oblivion. 4. Neither of them gained more than a small fraction of the profession as disciples, but these waged bitter warfare against the general body and its doctrines.

Let us go back one hundred years. Within thirty or forty years of that time these systems had their rise. Cullen published his "Elements" in 1789, which for nearly fifty years was the text-book of the civilized world. It was the first effort to place the practice of medicine on a scientific basis. Cullen stands at the dividing line between ancient and modern medicine. Haller's then recent discovery of irritability and contractibility as inherent properties of muscular fibre and of the sensibility of nerves, separates these two periods as by a great gulf. The solids could now play their part in physiology and pathology. Humoral pathology was overthrown after an unbroken reign of nearly eighteen centuries, and therapeutics became something more than an attempt to correct the acridity or viscidity of the fluids.

Cullen had something of a system based on spasm and atony of the capillaries, but at the bed-side he was a true clinicien, and his system never governed him; for, although the father of solidism, he did not deny to the fluids a share in pathology, nor did he base his therapeutics entirely on theory.

Within about thirty or forty years of Cullen's appearance, the four systems alluded to took their rise. It was a notable period in human history. Politically, largely under the influence of our revolution and the establishment of our republic, France threw off her monarchial form of government, feudalism and the throne went down together, the foundations of social life were broken up, anarchy prevailed, until order was restored by a military despotism. Throughout Europe governments tottered, while up to 1815 successive waves of war swept from one end of the continent to the other. Notwithstanding the clash of arms it was a period of great intellectual activity. The sciences had made and were making rapid progress; the ideas of the past were unsettled without establishing new ones on a solid foundation. Electricity was a new wonder, and

seemed about to reveal all the secrets of vitality, normal and abnormal, and to furnish a universal remedy. Phrenology made its appearance and rapidly took a position from which it has ever since steadily declined. Mesmer came upon the scene with the first revelations of animal magnetism, now known as artificial somnambulism, farther to astonish and bewilder mankind. Never in the history of the world has there been a period when opinions were more unsettled and when inquiry was more restless. Speculation was the leading tendency of the times, a belief in the wonderful everywhere prevalent, while Germany was especially befogged by complicated and intricate systems of philosophy. These were fit times for the birth of systems of medicine, for medicine like other branches of knowledge was in a transition stage; the doctrines of the past were shaken and undermined, new ones had not yet been established. Taking the best possible view, medicine was in a deplorable condition; it was a mixture of dogmatism, of empiricism, and of mysticism. Cullen's influence had not yet, in the early part of the period, destroyed the influence of the humoral pathology, and based upon this, blood-letting was carried to excess. The *materia medica* was scanty, and the powers of medicine but imperfectly known. Moreover, a barbarous polypharmacy prevailed, and medicines were administered in complex and incongruous mixtures, as if by the number of ingredients to make up for want of precision of knowledge.

It would be unjust, however, not to mention the substantial advances made during this period, or to omit the names of those honest workers in our profession who at once added to knowledge and benefited the human race. Just before the opening of this period, Morgagni laid the foundations of pathological anatomy, John Hunter made his brilliant discoveries in physiology and surgery, and William Hunter his researches in obstetrics. Priestly discovered oxygen in 1774, and soon after Lavoisier made out the chemistry of combustion and respiration. Pneumatic chemistry had made great advances, and at the beginning of the century, Sir Humphrey Davy, in one short sentence on nitrous oxide, gave the first index to the road which led, nearly fifty years later, to the discovery of anesthetics. Bell, in 1794, delivered those lectures on surgery which inspired Ephraim McDowell to perform

ovariotomy — the most glorious triumph of surgery. Bichat, by his study of the tissues founded general anatomy. Jenner, in this period, discovered vaccination, never surpassed in practical benefit to mankind. Towards the close of it, Bright, in England, opened up a new and most important chapter in renal pathology, and in France, Laennec perfected the stethoscope, and by comparison of the physical signs during life, with the changes found after death, made an advance in practical medicine of inestimable value. These were some of the substantial gains of medicine during the time in which these systems rose and flourished. While they made progress along a very narrow line, the general profession was advancing with a broad front.

John Brown was a Scotchman of humble parentage. His early life was a struggle with poverty. Much of his education was gained by teaching and by translating into Latin, or by writing, the theses of other students. For a time he was a teacher, and became a tutor in Cullen's family, but they quarreled, and this had, without a doubt its influence in the origin of a system which was in opposition to the leading spirit of the times. He was a man of great ability and good classical education, endowed with an excellent memory, and great powers of language. A wit, a brilliant conversationalist, an eloquent and ready speaker, with a love of controversy that left no opportunity for the exercise of his powers unimproved, he attacked the views of his adversaries with the keenest sarcasm, and maintained his own opinions with that dogmatism which always wins the assent of the young and unthinking. Moreover, he was a convivialist, with the usual results; dissipation marred his prospects, prevented his success, and doubtless shortened his life.

Brown published his system in 1780. He opens in the usual strain of reformers. He had passed, he says, seventy years in lamenting the profound uncertainty and the impenetrable obscurities of a salutary art. All at once a revolution came to him. It was the result of a fit of gout. Previously he had treated himself in orthodox fashion with debilitating remedies and strict diet. This time he tried the opposite plan. He feasted, he drank to merriment, and his gout rapidly disappeared. "I saw by that," he says, "that there was an asthenic inflamma-

tion." This was an unrecognized fact then, familiar enough now. One fact would seem a narrow foundation upon which to build a system of medicine; yet Brown's system was thus built, as others have been. It was built in the cabinet, out of the imagination, not from facts gathered at the bed-side and observations made in the dead-house.

This is his system. Life is the result of incitability. All its expressions and phenomena are the result of the action of stimuli or excitants upon this incitability. It would seem, then, very important to know what incitability is. It is a word. As a thing it is unknown in nature; revealed only by its effects. Brown nowhere defines it, but says that every being is endowed with a certain amount of it which being exhausted, life ceases. It pervades the entire system, it varies in degree, but never differs in quality. Diseases are changes in this incitability, either of excess or deficiency, caused by the influence of external or internal stimuli. A lessened incitability is debility, and this may be either the effect of too little incitation, or the result of over-stimulation. Diseases from increased incitability are sthenic, from decreased, asthenic. But there was a wonderful disproportion between these two classes, 97 per cent. were asthenic, 3 per cent. sthenic. The location of different diseases in these two classes was entirely arbitrary; some very dissimilar in nature and in symptoms, were ranged side by side. A scale was formed, which read upwards toward increased, and downwards toward decreased incitability, and the word of the master gave each disease its position.

In this system, local diseases received scant attention, everything depended on the condition of the whole economy. As for etiology, students were warned against the study of the causes of disease, that "venomous serpent of philosophy." A knowledge of anatomy was of slight value. Any idea of specific diseases, or of remedies acting specifically, either against disease, or on particular organs, was entirely lacking. The symptoms of the patient, even, were of little account, all depended alone on an estimate of the powers of the general system.

Brown's therapeutics was the corollary of his pathological doctrines. For sthenic diseases, he used depletion and evacuants. But we have seen how small proportion of dis-

eases he recognized as of this character; therefore, venesection and other lowering measures played but an insignificant part. Nearly all diseases being asthenic, stimulants were used most frequently and most freely. Wine, and alcoholic liquors, camphor, ether, and electricity were his chief remedies, but above and beyond all, opium. His administration of this was in accord with his estimate of its powers as a stimulant—extravagant. In fevers he gave ten drops of laudanum every fifteen minutes, until the patient slept, and then doubled the dose! It is stated that he gave sometimes as much as 150 drops at a dose! which suggests grave doubts as to the quality!

Brown's system then was simple so far as treatment is concerned, and simplicity is said to be the seal of truth. Hear him: "So great is the simplicity to which the art of medicine has been brought back, that a physician upon coming to the bed-side has only three things to determine. First, whether the disease is general or local; second, if general, whether sthenic or asthenic; third, to what degree it is either. These points decided, he has only to lay down his plan of cure, and carry it out with appropriate remedies."

This was the system of Brown. Almost entirely destitute of clinical foundation, a creature of the imagination, one-sided to a degree, it combined simplicity in theory with simplicity in practice. Wonderful it is to us now, that it could gain adherents; yet, presented by an able advocate, in captivating style, and with dogmatic affirmation, aided by great dissatisfaction with existing practice, and by the charms of novelty, it made for a time a strong faction in medicine. Those who talk of medical sects and their antagonistic feelings at the present day, should go back to the times of Brunonianism. So bitter were the debates in the Royal Medical Society of Edinburg, that several duels were fought, and at Gottingen there were street fights between the students who were disciples of Brown and their opponents, and the military had to be called out to quell the riots! Emperors, and even the Pope, were dragged into the contest and issued decrees relating to the subject!

Faulty and false as was this system, it was a reaction, violent and irregular perhaps, but still a just reaction against a prevailing humoralism, which even Cullen's influ-

ence had not been able to abolish, against an abuse of blood-letting, and against an excessive polypharmacy. It caused a recognition of the facts that frequently there is discord between the condition of a part and the state of the general system, that stimulants are often useful under circumstances where they had not been heretofore used, and that a consideration of the patient should accompany a study of his disease.

Broussais was born in 1772 and died in 1838. The early part of his professional life was spent in the French navy and army. His first publication in 1803 was on hectic fever, and in 1808 he put forth a more considerable work on thoracic and abdominal inflammations. His peculiar views did not attract much attention until he had impressed them upon successive classes of students at the military hospital of Val de Grace. In 1816 he made his appearance as a reformer, in his *Examen des Doctrines Medicales*, extended and completed in 1821; a work, which high authority says is illuminated by flashes of genius.

He was a man of marked ability, endowed with great rhetorical powers, ardent in temperament, aggressive in spirit, positive in conviction, bold in attack, bitter in invective and keen in satire. He divided the profession of Paris; as usual, the young joined the ranks of the innovator, the old remained true to the doctrines in which they had been educated. Moreover, there was a touch of politics in his doctrines harmonious with the times—the *ancien regime* of medicine was to be overthrown!

Again was proposed reform heralded by arraignment and denunciation of the past and self-laudation of the reformer. Medicine was covered with the darkness of night, he says, until he appeared; pathology had been a mass of errors; now doctrines were taught which would prove most beneficial to the human race! The "incitability" of Brown now became "irritation." As with Brown the general system was alone considered, with Broussais the part became the principal factor. The relative proportion of asthenic and sthenic disease was now reversed; the latter by far out-numbered the former. A state of irritation having been occasioned in an organ or part, by the influence of irritants, either external or internal, it was but a step to inflammation, and this was the keynote of his system. By sympathy, distant organs were affected; the heart, and

there was fever; the brain, and there was delirium. Crisis, instead of being favored, according to Hippocratic doctrine, was to be avoided as a violent and dangerous effort of Nature. All pathology was in the one word, inflammation.

Hear him: "It is by an inflammation which destroys with more or less promptitude, one or several of the organs essential to life, that the largest number of mankind perish. Every practitioner accustomed to contemplate the ruins of this admirable structure, which he has not been able to prevent crumbling to decay, is impressed with this truth. If we turn over the pages of the immortal work of Morgagni, we find everywhere the unequivocal evidences of inflammation. When we examine patients afflicted with chronic diseases, the majority of them complain of fixed and permanent pain of some internal part, while the wasting fever they suffer, indicates to us, too often, that they will perish by phlogistic disorganization of some of the viscera. If we give close attention to the symptoms of acute diseases, we find almost always, a trouble of the circulation, a more intense local heat, accompanied with redness and swelling, if the organ is external, and if not, these signs are manifest upon an examination when life is extinct."

Of all the organs of the body, the stomach and upper part of the alimentary canal, were, according to Broussais, the most frequently attacked by inflammation, and disease of this part from the wide range of its sympathies was also the most important. How could be better explained the loss of appetite, the nausea, the coated tongue, the malaise, the headache and depression of spirits which attend the onset of all acute diseases? *Gastro-enteritis* was the prime factor in pathology; the cause, the consequence or the accompaniment of almost every disease. He who studied the stomach, studied the most essential part of all diseases. Only by study of the stomach could fevers be understood, for all fevers were gastro-enterites. Essential fevers were denied, and upon no point did he fight the faculty more strenuously than upon this. In vain did Chomel adduce one hundred autopsies made at *la Charite*, in which not a trace of gastric inflammation was found. What had facts to do with a system? When anatomical changes in the intestines were present, as in typhoid fever,

they were the cause, not the consequences of the fever. All anatomical changes were the result of inflammation and positive proof of its existence. Such growths as melanosis, scirrhus, and all forms of cancer, together with the effusions of dropsy; and what could be more positive than scrofulous enlargement of lymphatic glands, and the tuberculous deposits of phthisis? Small-pox began with a gastro-enteritis, so did measles and scarlet fever! Corvisart, who had just published the first work on diseases of the heart, and Laennec, who was introducing and perfecting the stethoscope, were both reproached with overlooking gastro-enteritis, the most important accompaniment of cardiac diseases. Even the neuroses did not escape. What plainer proof of inflammation than delirium, coma, and convulsions? Hysteria, mania, melancholia and imbecility, were also submerged in this gulf of gastric pathology.

Here, then, was a system as simple as Brown's. It differed only in that diseases were all local instead of general, sthenic instead of asthenic. Departures from health varied only in degree, not at all or but little, in kind; whatever the locality, however diverse the symptoms, the morbid element was ever the same; changes in the fluids were ignored, all was inflammation.

Broussais therapeutics can be soon disposed of. His treatment was the logical result of his pathology. The healing powers of nature were practically denied, and the powers of the physician over-estimated. It was only duty to combat *vi et armis* these congestions and this inflammation. Blood-letting was the most powerful means at command, consequently blood-letting was the leading, almost the only, remedy. The lancet was used for diseases the most diverse, as dropsies, hypochondria, and other mental aberrations, phthisis, and the exanthemata. Intermittent and remittent fevers were periodical gastro-enterites, and were to be treated by bleeding at every accession of the paroxysm. Bark was only to be given during the apyrexia. A trace of this doctrine has remained within my remembrance, and we still occasionally hear, from the laity, expressions of surprise at the administration of quinine during fever. Consequent on this gastro-enteritic pathology, leeching to the epigastrium was a favorite procedure. Under Broussais, leeches were used more freely than ever

before or since, or ever will be again. Thirty or forty were applied to the epigastrium at once, nor was one application all. Besides these measures there was virtually nothing. His views of gastric and intestinal inflammation caused him to reject purgatives and emetics as positively injurious, and to neglect salines. Emollient drinks, ptisanes, gum-water, barley-water, decoction of althea; these, and only these, besides blood-letting.

It would seem impossible that any good could result from such a system as this. Yet it bore some good fruit. It brought back to consideration the local affection, and in this was a counter-balance to Brunonianism. It gave great stimulus to the study of pathological anatomy, in which the profession demonstrated the falsity of his doctrines. It was the means of advancing our knowledge of fevers, individualizing them, substituting simplicity for complexity, anatomical knowledge for theoretical explanations. Broussais, like Brown, overthrew for a time polypharmacy, but at the same time he destroyed the materia medica. His therapeutics, however, will not bear comparison with Brown's. It was better to be sick in Edinburgh than in Paris. Of these two systems, we may accept a good deal of the treatment of Brown and reject his pathology; and accept much of the doctrine of Broussais and reject his therapeutics.

The system of Rasori need not detain us long. It did not extend much beyond Italy, the land of its birth, but it modified the other systems, had its influence upon medicine, and so demands notice. Rasori translated Brown's work and was at first an ardent Brunonian, but afterward modified and even reversed the doctrines of his master. He published no formal treatise, but papers and pamphlets, and the system reached its full development under his disciple, Tommasini, in 1821.

Again, diseases were only of two classes, sthenic and asthenic, but now the terms were, "the diathesis of stimulus and of contro-stimulus." But Rasori agreed with Broussais and differed with Brown as to the relative proportion of the two. Again diseases were sthenic or asthenic by the word of the master—chlorosis, for instance was a slow angioleucitis, an inflammation, therefore a sthenic disease. Remedies were stimulant or contro-stimulant as they had proved beneficial in one or the other

class of diseases. In case of doubt as to which class a given case belonged to, the physician was to make a trial, of venesection for instance, and decide from the effects.

With Brown, debility was relative or indirect, the relative being from insufficient stimulus, the indirect from exhaustion of the incitability, the result of over-stimulation; there was no such thing as a direct debility or asthenia. This direct debility, especially as produced by remedies, was recognized by Rasori, and so it was by Broussais, but blood-letting was his only sedative or contro-stimulant, while Rasori found in tartar-emetic, digitalis and other medicines efficient contro-stimulants. Inflammation was now fought with vascular sedatives, as well as with venesection. Tartar-emetic was Rasori's leading medicine. By study of its action he was led to the doctrine of tolerance. He found that in large, even enormous doses, it did not produce emesis, and his explanation was that it acted directly on the disease. By Rasori, medicines were almost always given singly. While, for Brown, they only cured by affecting the general system, Rasori taught the important doctrine that they had a special or specific action on individual organs, which was a decided advance. Thus, he had vasculo-cardiac and cardio-vascular sedatives, gastric, spinal and cephalic contro-stimulants, etc.

Here, again, was a system based on the impotency of nature, and on the power of art to cure disease. Any tendency towards health by crisis or otherwise was denied. The most violent and perturbative and depressing measures were pushed to extremes. It was the system of *contraria contrariis* carried to excess. The *contraria*, however, was directed against the diathesis, for the disease was often treated by similars; as jalap and gamboge for dysentery, nitre for diabetes, etc. Medicines were administered in doses simply enormous; nitrate of potash, two and a half ounces; gamboge, a scruple; tartar-emetic, twelve grains; jalap, one to four scruples.

Let us take a case from the records: The patient was a robust man in the second day of the disease. He had considerable fever, violent pain in the right side of the chest, pulse strong, breathing short. Venesection to two pounds, and eighteen grains of digitalis. On the third day there was still pain, pulse 112, expectoration bloody; bleeding eighteen ounces, twenty four grains of digitalis;

in the evening eighteen ounces more blood taken. On the fourth day the same symptoms, eighteen ounces of blood morning and evening and thirty-six grains of digitalis. Fifth day same state of affairs; two venesections and two scruples of digitalis. Sixth day, all the symptoms worse, pulse very small, 108, great depression of strength; bleeding to one pound and two scruples of digitalis. Seventh day no change, the bleeding and digitalis to be repeated as on the day before. Eighth and ninth days, breathing very short, small and frequent pulse, worse in every respect; again venesection to a pound; bronchial rattling, great anxiety, death. No wonder! He died, as did the notary in Gil Blas, because he could not stand another venesection, and another dose of the favorite remedy!

It would seem to us now as if a fatal result must necessarily follow in every case treated upon these principles. Yet Rasori gives 22 per cent. as his mortality from pneumonia; while for all diseases it was 16 per cent. Tommasini claims that the mortality of his hospital practice was the lowest ever recorded, 10 per cent, or including the mild cases, only 5 per cent. I think we are forced to the conclusion that, while the Rasorian system furnished ample evidence of how much the human frame could endure, it also shows the utter unreliability of figures as indicating the results of any mode of practice. Unless you can "go behind the returns" there is nothing so unreliable as statistics in medicine.

It was time for some one to appear and revive the teaching of Hypocrates, that nature sometimes cures disease, and that the physician is her minister and assistant, not her autocrat. Instead came Hahnemann, and again the curative powers of Nature were denied, and the effects of medicines exaggerated. Again the profession was arraigned and denounced for its imperfections, and the new doctrines proclaimed with intense egotism. The origin of Hahnemann's system, like that of Brown, was in a single observation. Reflecting on the mode in which Peruvian bark cured fever, he took a dose himself; it was followed by fever, therefore, it cured by exciting a disease similar to the one for which it was given. From this proceded the doctrine of *similia similibus curantur.* It was announced as the universal law of cure, and a "system" was built up which equals the others in assumptions, in hypothe-

ses and speculations, and surpasses them in demands upon credulity. It is a system to one feature of which, the small doses of medicine, attention has been too exclusively directed, while its monstrous doctrines in pathology deserve equal, if not more, attention.

1. Disease is purely dynamical; a change in the spiritual nature of man. Its causes cannot possibly be material. It is known only by its symptoms therefore, all study of pathology is useless, nor does the physician need a knowledge of anatomy.*

2. Diseases are never cured by antipathic or by allopathic treatment. These methods may apparently cure, but they really result in increase of the disease. Disease can only be cured homeopathically; that is, by exciting by medicine, a disease similar to the one under which the patient suffers. This artificial disease extinguishes the natural disease and no more; it acts exactly to the line of health and no further.†

3. All palliative treatment results in positive injury to the patient. If opium be given for pain, as soon as it has ceased to act, the pain will be increased beyond its original intensity.‡

4. All direct treatment of local diseases, non-traumatic, is wrong and injurious. Those of the eye and ear are not excepted. Removal of an encysted tumor, may, and is likely to, be followed by blindness, deafness, insanity, dropsy or apoplexy.††

5. Treatment directed to any leading symptom will only bring worse disaster. Electricity for partial paralysis is specified; it will be followed by entire loss of power.**

6. The powers of medicine should be ascertained by trials or "provings" on healthy persons, and in no other way.

7. But a single medicine should be given at a time, and the dose of that should not be soon repeated, its effect may last 40, 50, or 100 days.‡‡ No matter how suit-

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* ORGANON, *introduction*, and § 16.—The references are to the third American edition, by Hering; New York, 1849.

† §§ 67, 112

‡ § 69.

†† § 205 *note*.

** § 59.

‡‡ § 246.

able the medicine, an aggravation follows if it be repeated on the morrow or the day following.*

8. The dose of medicine must be small, exceedingly small; so minute that why it is limited at all remains a mystery. You well know the formula: one drop of the mother tincture to ninety of alcohol, to be shaken together twice and only twice; one drop of that, to ninety more of alcohol, and so on thirty times, when a drop contains the decillionth part of the original. Then a globule of sugar moistened with this makes a dose more potent than the original drop.

9. A dynamical or spiritual power is conferred on medicines by the shakings, or the rubbings of solids. The influence of these shakings is so great that whereas in the beginning, ten were used, later he was forced to reduce the number to two. Why successive dilutions are required, is not clear, for it is positively stated that having shaken for half an hour, a grain of natron with half an ounce of water, the fluid attained an energy equal to the thirtieth dilution.†

10. By this process of preparation inert substances such as common salt and charcoal and flint become endowed with powerful medicinal virtue.**

11. It is not necessary that medicines be swallowed. Applied to any sentient part of the body, their action extends to all other parts.‡ Smelling one of the medicated globules, and smelling but once, is sufficient in many cases for a permanent cure.‡‡

12. The vast majority of chronic diseases are caused by psora, the principal outward manifestation of which is common itch. This psora in the system, notwithstanding that diseases are all of spiritual nature and that their causes cannot be material, is the cause of almost all chronic diseases. The following are mentioned: insanity, epilepsy, cancer, gout, dropsy, paralysis, nervous debility, spasms and pains of all kinds, worms and intermittent fever.†† "It has cost me twelve years of study," says Hahnemann, "to discover this great truth." A few years afterwards,

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* § 246, *note*.

† §§ 270, note, 271, 269.

** § 269. ‡ §§ 289. ‡‡ Introduction *note*; §§ 246, 285, 228, and *notes*. †† Introduction, *note*; §§ 210, 244, 242, 80 and *note*.

the microscope revealed the cause of itch to be an insect burrowing under the skin.

These are the doctrines of the Organon as briefly stated as possible. They need no examination, now, since those who avow themselves homeopaths hasten to add that they are not such as Hahnemann was. But no study of this system is complete which does not include a chronological view of its development, and the mental characteristics of its author.

Its doctrines were first propounded in the medical journals, and at first, medicines were administered in ordinary doses. To meet the aggravation of symptoms caused by adding fuel to the fire, the doses were gradually diminished until the infinitesimal was reached and the mysticism of dynamization was conjured up. The new doctrines then were sharply criticised by the profession. They could not have escaped this had they been far less revolutionary. There is a natural conservatism in the human mind which is not confined to medicine. Great and valuable truths have at first met with opposition. You all know the history of the telegraph, the locomotive and transatlantic steam navigation. Hahnemann did not bear criticism well. In this respect he stands in marked contrast to Haller and Harvey. When their doctrines were assailed, they pointed again to the facts sustaining them, and awaited with dignity that verdict in their favor which both lived to see. Then, in preparing his own medicines, Hahnemann violated the law, and the apothecaries prosecuted him. This is the foundation for the cry of persecution by his adherents. He became more and more embittered at the profession, broke with it, and appealed to the people. The Organon, published in 1810, is this appeal. It contains the first complete presentation of his doctrines. It is full of bitter denunciation and of misrepresentations of the profession, while it nowhere approaches in character to that of a scientific treatise. It is full of positive affirmations, without a shadow of proof; words figure for things as imaginary as the incitability of Brown; in its claim that man can endow matter with spirit by rubbing it in a mortar it taxes belief to an extent never before attempted; the fundamental doctrine of *similia similibus curantur* is supported by illustrations from the physical world that are simply ridiculous, and the

medical proof consists of a few dozen isolated cases exceptional in character.

Later in life came the psoric theory. The treatise on Chronic Diseases was published in 1828. By this time Hahnemann felt his position as the head of a medical sect, together with the necessity of maintaining it, and he enunciated his doctrines with the tone and authority of a master. He brooked no difference of opinion, was autocratic and dogmatic in the highest degree. Hear him:

"He who does not walk on exactly the same line with me, who diverges, if it be but the breadth of a straw, to the right or to the left, is an apostate and a traitor, and with him I will have nothing to do."

"It holds good, and will continue to hold good, as a homeopathic therapeutic maxim, not to be refuted by any experience in the world, that the best dose of the properly selected remedy, is always the very smallest one in one of the high dynamizations as well for chronic, as for acute diseases."

Here then, was all right of opinion denied, and all future progress blocked, by the word of the master. And this is the man that homeopaths place on a pedestal and worship as a hero!

The question arises as to how and why such a system as this could gain any acceptance whatever. A satisfactory answer contains three divisions.

1. The character of the times in which it was promulgated. It gratified the love of the mystical; it had, for the masses, the charms of novelty, for the educated, those of speculative philosophy.

2. Medicine was brought down to the level of the laity. Amateur prescribing was a marked feature of the early days of homeopathy. It was simplicity itself to hear the patient's symptoms, look in a book for a drug which would cause just such symptoms, and deal out medicines which by no possibility could injure.

3. Chief above all other things it was, like Brunonianism, a reaction and a protest against the abuse of bloodletting by the profession.

The latter point deserves more than a passing mention. Few of us now realize how sad a chapter in the history of medicine is that on bloodletting. We need not be ashamed to acknowledge it now; we are not responsible for

the errors of our ancestors. Had the abuse of venesection been confined to individuals, like Broussais and Rasori, or Guy Patin, who bled a patient 84 years of age four times, and an infant of three days, not much could be said, but the profession at large was guilty of an abuse of this remedy. It was the standard remedy for all inflammatory diseases. Inflammation was then a *phlogosis*, a burning, and he who would not take away the fuel, was as culpable as one who should see his neighbor's house burn and not throw on water. Bleeding was the leading remedy in fevers of all kinds. I can remember the last illness of my mother; she died of bilious remittent fever; she was bled several times "because the fever had risen again." Almost within a stone's throw of this building, lives one of the early settlers of Dayton, a matron around whom cluster grand-children and great-grand-children; she has told me that in one attack of fever she was bled sixteen days in succession. What can we say now as to the necessity of a formal argument against venesection in phthisis, or in regard to bleeding in cases of placenta previa even after large losses of blood.*

Is there any explanation of such palpable abuse of a remedy? It may be found, I think, first, in the comparatively few remedies then at command; chemistry had not yet showered her gifts upon the profession. Second, in the fact that the lancet always produced an effect, and that effect was sometimes markedly for good. Then followed the great error of the system makers, generalizing from a few facts, and the remedy was used always because beneficial sometimes. Looking back to the early years of my professional life, I can recall cases in which great and immediate relief was given by a venesection. The subjects were young and robust countrymen with severe acute affections of the chest one or two cases, of injury with great oppression of breathing, and puerperal convulsions. Further, it should be borne in mind that the profession was not alone to blame. This remedy was enthroned as a sovereign in the popular mind. Any physician who omitted it would have been arraigned at the bar of public opinion. Herein is the history of this error like that of others

* CHAPMAN, Essay on Midwifery, 1733; Treatise, 1753. SMELLIE, Midwifery, 2nd Ed., Vol. III, in collection of cases; Smellie himself did not thus practice.

belonging to humanity. How many murders have been committed by duelling under the pressure of a false public sentiment?

Venesection was not only the great popular remedy, but it had been elevated to a hygienic measure of the first importance, probably because in those times nothing was known of hygiene. The peasantry went in troops to be bled; with all classes, it was as regular as spring and fall house-cleaning. In the life of Louis XI we read, that in one year, to preserve his Majesty's august health, he was bled forty times, and took one hundred purges. This must have made it lively for royalty!

To return to homeopathy. It rendered service by the assistance it gave in ascertaining the natural history of disease, which, for obvious reasons, is one of the most difficult problems the profession has ever had to solve. Behind the curtain of an active medication, it was pure expectancy, and thus while denying Nature's power it gave the opportunity to observe it. Again, it supplemented the work of Brown by showing that diseases could be recovered from without any lowering measures. It also assisted in the overthrow of an excessive polypharmacy, and it gave a stimulus to the study of the physiological action of medicines.

In these directions, then, homeopathy exerted a favorable influence upon medicine. The extent of that influence must possibly be left to the historian of the future, to the time when partisanship shall have passed away, as it has now disappeared in regard to the systems of Brown and Broussais. With no desire to abate the just measure of credit due to Hahnemann, it is impossible to accord all that is claimed for him. Thus, the whole merit of testing medicines by personal observation of their effects is claimed, by his followers, to belong to him. But Haller preceded him in this work, as Hahnemann admits, and Stœrck, Hahnemann's own countryman, but whom he does not mention, antedates him thirty years. Stœrck tested the powers of aconite and conia and hyoscyamus, and gave us stramonium. To grant the claim that Hahnemann deserves all the praise, or even the major part of it, for testing medicines or for a milder therapeutics, would be to do gross injustice to other workers in the field, and to ignore other influences. It would be to overlook the

direct influence of Brunonianism, and the indirect influence of Broussaism. The former had demonstrated that inflammations and fevers were cured without depletion; the latter incited a spirit of revolt against its extravagant doctrines which was led by Laennec and Louis, and sustained by Rostan and Grisolle. It would be to overlook the general current of progress, which was setting strongly in that direction. Graves, during the period under consideration, revolutionized the treatment of fevers. He banished all lowering measures, and gave food and stimulants. So great was the change and so beneficial the effects, that he expressed the wish to have engraved on his tombstone, "This man fed fevers." Graves derived his inspiration from Brown, not Hahnemann. Minor and Tully, in New England, under the same influence, most emphatically condemned the abuse of venesection.* About 1830 Marshall Hall showed that certain cerebral symptoms in children, appearing in the course of exhausting diseases, did not indicate inflammation and required food and stimulants instead of leeches and purgatives. Then came the Vienna School, under Skoda and Rokitansky, with courage to watch the progress of acute disease without interference of any kind, and opened a way afterwards so happily followed in the treatment of pneumonia by Hughes Bennett of Edinburg. The value of quinine in malarial fevers, and the importance of large doses, became recognized, and blistering and bleeding were abandoned in this large class of diseases. I see men sitting before me who can remember when two grains of quinine was considered a full dose, and that never to be given when the fever was on. For this advance, the surgeons of our army, and practitioners in the southern part of this country, deserve a large share of the credit. Nor must the introduction of veratrum viride be overlooked. It was pushed with energy by its advocates as a substitute for venesection, and they succeeded in establishing it as such to no small degree.

* "The lancet is a weapon that annually slays more than the sword. The king of Great Britain, without doubt, loses every year more subjects by these means—depleting remedies, — than the battle and campaign of Waterloo cost him with all their glories."—DR. TULLY.

"Such practices have been the scourge and devastation of the human race for more than two thousand years."—DR. MINER.

For these extracts I am indebted to the kindness of DR. OLIVER WENDELL HOLMES.

Then came other publications in favor of milder measures; in England, Forbes' "Young Physic," and "Nature and Art in the cure of disease;" in this country, Bigelow's treatise on "Self-limited Diseases." The influence of these writings in the same direction was immense. Thus there were a host of influences, all progress was that way, and to attribute the change in practice entirely to Hahnemann is not only untrue, but absurd.

Time renders a verdict upon all human doctrines. First, by the fruits they bring forth; second, by the modifications they undergo. We have now to examine these systems in these two respects, and see what they have given to us of value, and what remains of them as originally promulgated.

Of Brunonianism, we have the doctrine of asthenic inflammation; *i. e.* a recognition of the fact that some cases of inflammation demand stimulants; also that the treatment of the general state takes precedence of the local affection. These date from Brown, and were a great advance on the times preceding him. All else he did or wrote has passed away and is forgotten.

Rasori extended and established more firmly, the doctrine of the action of certain medicines upon certain organs. He restored to the materia medica the febrifuges, the vascular sedatives, and other classes of medicines. Broussais had made nearly a clean sweep of everything but leeches and the lancet, and gum water. Corrected by the experience of other observers, and modified by the influence of more sober minds, Rasori's teachings have restored to favor many valuable medicines, and benefited the art.

What remains of Broussais therapeutics? Nothing, literally nothing. Venesection is a lost art. The lancet rests in its sheath. Under the influence of that unseen giant, Opinion, fostered and nourished by homeopathy, if you will, the pendulum of reaction has swung to the extremity of the arc. Will it ever return? I am one of those who believe that it will; not to swing to the other extreme, but far enough to bring within recognition a valuable remedy with a restricted range of application. My belief is based on physiological principles, on observation, on experience, on the history of the changing fortunes which many other remedies have undergone.

And now, of homeopathy in these two aspects. First, what has it given us? Nothing. It has not made a single direct contribution of value to medicine, not one addition to our therapeutic resources of such evident worth as to cause its adoption by the profession at large. Its indirect influence in changing practice has been considered. I would not belittle it. But when it comes to direct additions to our knowledge or powers, there are absolutely none. This system has now occupied the field for three quarters of a century with ultra doctrines, revolutionary in character, and making the loudest pretensions. During that time the regular profession has introduced the stethoscope, the laryngoscope, the ophthalmoscope, the sphygmograph, the hypodermic syringe, and the thermometer. It has discovered vaccination. It has introduced scores of new medicines of the highest value, such as the bromides and chloral, iodine and the iodides. Surgery within that time has been twice revolutionized, once by anesthetics, and once by antiseptics. Not one of these additions has come from homeopathy, or been suggested by it. Taking a department, which it claims as peculiarly its own, the investigation of the action of medicines, and it has given us nothing which will bear comparison with Magendie's and Bernard's investigations of the action of the alkaloids, nothing equal to Leibreich's brilliant application of chloral, based on its chemical changes, or to Brunton's discovery of the therapeutic value of nitrite of amyl from its physiological action.

And now as to doctrines. If Hahnemann's doctrines were great truths in medicine they would have remained unchanged, or but slightly modified, by those who accepted them, however slow might have been their acceptance by the profession at large. The fact is, the doctrines of Hahnemann have undergone modification in every decade since his time, and in the most essential points. There is not a single doctrine now generally accepted by the sect as it was taught by the founder. Immediately after Hahnemann's death, discord and schism began among his followers. The psora theory was too much for some even of his ardent votaries. Then for a time an exaggeration of the doctrine of similia threatened to swallow up the original homeopathy; this was isopathy, or the treatment of diseases by the products of disease, triturations of diseased

liver for affections of that organ, of expectoration for diseases of the lungs, etc. Psorin, the pus and mucus from the vesicles of itch, is still a standard remedy in homeopathic practice.

Time does not permit me to trace the numerous changes which homeopathic doctrines have undergone within the last fifty years, and to point out those which have been from time to time in the ascendant.* I can only give briefly the aspect they have taken on at present; in other words show what is the homeopathy of to-day.

It is far easier to say what it is not, than what it is. First of all, it is not Hahnemannism; not for the large majority. Against nothing do homeopaths protest more earnestly than that they should be judged by Hahnemann, and claim that it as unjust so to judge them as to compare our practice of to-day with that of the times of Rasori and Broussais. The plea is fair, and the mistake so often committed should not be again made, of attacking homeopathy by exposing the fallacies, the absurdities and the extravagancies of the founder of the system. Homeopaths would convey the impression that their creed has been improved since the days of its founder; the student of the subject finds that instead of widening, extending, and adding to, the changes consist in the lopping off of absurdities, in rejection of many articles, in the restriction of others, and that every change made is in the direction of regular medicine.

We all know from daily observation, that they no longer follow their master in regard to palliative treatment; they give opiates as freely, and resort to the hypodermic syringe as readily as we do. Amateur doctoring has passed away, and the practice of medicine is not the simple thing it once was. The spiritual doctrine of disease has disappeared; the advances of pathological anatomy have compelled this. They have been forced to acknowledge the value of a study of physiology and even of anatomy, in spite of the dictum of one of Hahnemann's near disciples, that by seeing a butcher slaughter a hog, a physician could get all the anatomy necessary. They no longer hold to their leader's doctrines in regard to the treatment

* "The history of homeopathy shows as many sects as there are temperaments of men."—C. WESSELHOEFT, *New England Med. Gaz.*, (*Hom.*) Nov. 1883.

of local diseases. Their representative men everywhere, now admit the curative powers of nature.* This is not much for any lay-man who ever recovered from a cold without using remedies, but it shakes the very foundations upon which rest the proofs of cures by infinitesimals.

I will take but one point to show how widely the homeopaths of to-day have departed from their early doctrine. I will not select that montrous absurdity, the psoric theory, but the doctrine of potentization, which is essential if medicines are to be given in the decillionth of a grain, or if charcoal and common salt are powerful curative remedies. I quote only from homeopathic writers.

Wesselhoeft says of this doctrine that, "Those given to spiritism may believe in it, practical people will confine themselves to doses in which the presence of matter is demonstrable." Nowhere can you find a more complete refutation of this chimerical doctrine, based on experiment, than in the pages of this homeopathic writer.†

A contributor to the N. Y., Medical Times calls the potentization doctrine, "An outrage on well known philosophical principles, an insult to common sense and an offense to common honesty." The editor of the same journal says,‡ "The idea that a given substance can be indefinitely diluted and its powers indefinitely increased by it, is an allegation that would have astonished the inhabitants of the earth in the darkest and most superstitious ages of ancient Egypt." Kidd speaks of the doctrine as, "A whimsical notion begotten of fanciful dogmatism." Sorge as, "A folly pushed to extremes."†† Huber terms it an extravagance.‡‡

I could quote equally strong language and from as good authorities in regard to the folly of "provings" by which hundreds of symptoms have been attributed to an

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* KIDD; The Laws of Therapeutics.
MAYLAENDER; Ueber heutige Homoeopathie, Berlin, 1885.
WEISSELHOEFT; The Law of Similars, Boston, 1883.
HIRSCHEL; Compendium der Homoeopathie, 1864. (quoted by Jurgensen.)

† The Law of Similars.

‡ Jan., 1878.

†† Die Homoeopathie befreit von Uebertriebungen.

‡‡ "Audiatur et altera pars!" A reply to Jurgensen, Vienna, 1877.

infinitesimal dose of such a substance as oyster shell, some of them experienced days and weeks after the dose was taken.

I will consider briefly what are claimed as the three distinctive features of modern homeopathy; they are, 1st. The small dose. 2d. The single medicine. 3rd. The law of similars.

These have all been changed from Hahnemann's teachings. This is especially the case in regard to dose. That it shall be small as compared with ours, is generally held, but as to how small there is no agreement. Some few hold to the high dilutions, many more to the lower potencies, from the first to the sixth. Moreover, the decimal dilution has been largely substituted for the centesimal of Hahnemann, so that with doses repeated several times every hour, as is their custom, the patient could soon be as fully under the influence of a medicine as if treated by one of us.

Other homeopaths again, and a large division of them, claim the right to give any dose they please, and use sudorifies, diuretics, etc., as such, in full doses. "Upon these points the votaries of homeopathy are as wide apart as the material and spiritual, as time and eternity."* There is not only discord upon this dose question, but often war, and it is carried on with no gentle words. A writer in the "Investigator," † speaks of the high potency men as "those, who, for the most part have lied like Cretans about their cures, or have been so incompetent in the matter of diagnosis as not to distinguish between ephemera and true pathological conditions." On the other hand, the President of the International Homeopathic Institute for 1883, says that, "Low potencies and crude drugs suppress symptoms, and the prescriber who, in his therapeutics, has never risen above them has never breathed the refined atmosphere of pure homeopathy."

Upon this leading point of doctrine homeopathy is a house divided against itself, its foundations undermined by opposing factions, and, it will be remarked, the modern changes in doctrine all lead towards regular medicine.

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* Drugs; by Asa S. Couch, a paper read before the Amer. Institute of Homeopathy, 1883.

† April 21, 1883.

II. Upon no point of doctrine do homeopaths lay more stress, especially to the laity, than the single medicine. No feature of regular medicine do they attack more vigorously than that of combining medicines to modify or increase their effects. Nor are they at all particular to confine themselves to recent times, but with gross unfairness, go back to the days of polypharmacy for examples upon which to animadvert.* Yet no teaching of their school do they more frequently violate than this. It is only necessary to look through their journals to find abundant evidence that the law is broken daily. Medicines are not mixed together but they are given alternately, in close succession of doses, sometimes as near together as every ten or fifteen minutes. Now, the difference between mixing two medicines before swallowing, and mixing them in the stomach, by taking one soon after the other, is just the difference between tweedle-dum and tweedle-dee. There is nothing in which homeopathy has departed farther from the teachings of Hahnemann than in this, and nothing connected with it is so dishonest, and therefore so disgraceful, as this.

III. There remains but the doctrine of *similia*. This is the keystone of the arch, the one portion of the creed from which there is the least dissent. Belief in the universality of this law, they claim to be the one thing which separates them from us.† It is upon this that homeopaths base their claims to science, and justly so, for if the law of cure by similars is a universal law, as claimed by Hahnemann, then homeopathy is a science. But the universal laws of nature have no exceptions. There are none to the law of gravitation, none to the law that the planets move

* Thus, the author of "The grounds of a Homeopath's Faith," 1880, goes back to the *Theriaca*, of the Pharmacopeia of 1682; and SHARP, in his Tracts on Homoeopathy, No. 11, does the same, and gives the *Mithridate* of 1782, which contains fifty ingredients, as examples of our prescribing.

† Yet they are not all agreed upon this. Thus, in "The Grounds of a Homeopath's Faith," three lectures delivered by request to the students of the University of Michigan, by Prof. Jones, of the Homeopathic Department, we read: "If I were asked to state what chiefly distinguishes the homeopathic physician from his older brother in the science and art of medicine, I should at once reply: 'Not the law of cure, not the infinitesimal dose, not the Hahnemann hypothesis of chronic diseases; none of these, but simply this—*his fixed faith in the efficiency of drugs*."

over equal areas in equal times, none to the law of union by definite proportions in chemistry. Is *similia similibus curantur* a universal law? Rapou, the French defender of homeopathy, says it is not.*

Hirschel, in his Compendium of Homeopathy, says it is not.† Dr. Kidd says it is not the only law, and gives examples of cures by contraries.‡ Dr. Wyld, Vice President of the Homeopathic Society of Great Britain, says that now homeopathy includes the law of contraries.** Maylaender says, *similia similibus* is not a law, it cannot be proved by experiment, and it is therefore, an hypothesis, a belief, a dogma; "There is no universal law for the cure of human ailments."§ Heinike says a "scientific foundation for the law cannot be given."†† These are all homeopaths.

Now we all know that Hippocrates recognized this law of cure, when he said that diseases are sometimes best treated by similars and sometimes by contraries. The profession has recognized it ever since, and we act upon it to-day, whenever we can effect good by it, as for instance, in the treatment of dysentery with saline cathartics, diarrhea with aperients, etc.

This doctrine, the leading one of the system, has also undergone great change since Hahnemann's time. It has now "assumed a form essentially different from that held by the founder of the sect."‡‡ And Huber says that, "as explained by Hahnemann, it is no longer in accord with the advances of science."|| With Hahnemann, the law referred to a similarity between the symptoms produced by the medicine and those of the disease; now, it refers to a likeness between the pathological changes produced by the medicine, and those caused by the disease. Again the progress of pathological anatomy has forced this change. Now, instead of the effect of medicines being determined

* Quoted by SMYTHE, Medical Heresies, 1880.

† Quoted by Jurgensen.

‡ The Law of Therapeuties.

** Letter to Dr. Richardson, published.

§ *Op. cit.*

†† Die Principien der Homeopathie, 1871. Quoted by KOEPPE, Die Homeopathic Hahnemann's und der Neuzeit, Berlin, 1881.

‡‡ SORGE; *Op. cit.*

|| *Op. cit.*

by provings on the healthy, they are more sought for in the changes produced in the various organs or tissues by excessive doses.* Thus, bichloride of mercury for dysentery and Bright's disease, arsenic for cholera, because the toxicological effects of these medicines on the organs resemble the pathological changes found after death. Hence, with homeopaths post-mortem examinations of cases of poisoning assume a very high value. By study of the lethal effect of drugs, they now seek to find specifics for disease. This has become the great aim of the sect, whether it accords with or is contrary to the law of similars. "The main desideratum is to find a medicine between which and the disease there exists a specific relation."†

It is needless to say that any general, not to say universal, relation or connection between the pathological and toxicological changes in the organs remains yet unproven, just as does any relation between medicinal and disease symptoms according to the original doctrine of Hahnemann. Until this is done, homeopathy cannot establish its character as a science. Sciences are not built on truths of limited range and application.

The diversity of homeopathic doctrines shows that the term "homeopath" does not define a man's position with any accuracy at all. It covers very diverse, even opposite opinions. This fact has an important bearing upon the medical politics of the present. You know that our sister society of New York has been divided upon the question of consulting with homeopaths. It would be well for us, therefore, so long as this question remains a possible one for this and other societies to consider, to understand as clearly as possible what the term "homeopath" implies.

It includes, at least, three distinct and well defined classes: A few homeopaths are Hahnemannians. At the meeting of the N. Y. Homeopathic Society in 1883, three acknowledged themselves to be such out of sixty present. According to the British Medical Journal, the real homeo-

* The relative importance of the two are well shown in a monograph on "*Gelsemium Sempervirens*," by the Hughes Club, Boston, 1883. Those who would obtain a just idea of the scientific(?) character of homeopathy are referred to this recent and much lauded production of the school.

† WESSELHOEFT, *Op. cit.*

pathists of Great Britain can be counted on the fingers of a single hand. With this portion of the sect it is impossible to consult. You cannot reason with a man who maintains that a part is greater than the whole. These are intellectual cranks.†

A considerable larger portion of the sect is made up of those who have been educated in all the branches of medical science, who practice in good faith according to the law of similars, but who are bound by no rigid rules as to dose. This class is more numerous in eastern cities than here. It is large enough to have an organ. This journal carries at its head this extract from our code of ethics: "A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession." And this: "Our practice is *not* based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry."

These men comprise the best of the sect. They support medical legislation to establish boards of health and ensure to the public educated physicians. They are on their way back to the ranks of the profession; they are dropping their distinctive appellation, and certainly no obstacles ought to be placed in the way of their return. It is folly, and worse, to call them charlatans and quacks. They are men who exaggerate the value of the law of similars, and the efficacy of the small dose. There is room for honest difference of opinion as to the range of the law, and it will not do for men who use "Ringer" as a textbook, to be too particular about small doses. These men are but little farther from the general line of practice than many of our number who ride "hobbies," who appear so

† DR. BUCHMAN thus explains a cure, by high potencies, of a case of amblyopia with mental depression; "Just as alcohol by its greater physical affinity to water expels the sugar of milk from its watery solution, just as arsenic expels phosphorus from the living vitellin in the brain by its greater pathopoetic affinity to it than the nutritive one to phosphorus and assumes its place, so in our case, *similia similibus*, by its greater pathopoetic affinity, empowers the high potency of phosphorus to expel the morbic cause, grief, etc., acting on the cerebral and nervous cells, and takes up the place formerly occupied by the morbific cause." *Amer. Jour. Homeopathy*, Aug. 1884.

frequently in the journals with new and wonderful modes of treatment of diphtheria, scarlet fever, or of some other epidemic they have passed through. We smile at the enthusiasm of these men, we recognize their error to be the same as that of the system-makers, generalizing from a few facts, we glean from their bushel of chaff the few grains of truth there may be; we do not cut them off from professional fellowship. We ought to treat as professional brethren all men who have been educated in medicine, who are honorable in conduct, who elevate the profession above any of its sects, who are honestly trying to advance our knowledge and to cure disease and alleviate suffering, whatever may be their methods.

The majority of homeopaths are unfortunately of quite another character. They have adopted this line of practice for whatever there may be of popularity in it, and they pursue their calling in the sole spirit of trade. Shall I be charged with slandering my neighbors? Hear what the *Medical Times** says. It has dropped the distinctive title of "homeopathic" and advises others to do the same: "We are as confident as we can be of anything, that many use the term from mercenary motives, and that it is in many instances only a trade mark!" The editor says farther that the reply to this advice always is, that practice would be lost in doing so: "With this fact in view how can we reach any other conclusion than that the title is retained for the purpose of business." In plain English this means that they are obtaining money by false pretenses. These are the men who have kept bright the spirit of the founder—hatred of the regular profession. They habitually indulge in the grossest misrepresentations of regular practice, and play upon every prejudice which exists, or which they can excite in the public mind. They sneer about "drugs." It is a good word to use, it sounds like *dregs*, and dregs means dirt. They boast much of using "pure medicines," thereby conveying the slander that others are not careful about the quality of the chemicals they administer. They instill into the minds of their patrons the fear of "strong medicines," and, while doing so, deal out "*lachesis*," serpent venom, and "*crotalus*," the poison of the rattlesnake—medicines which are too strong

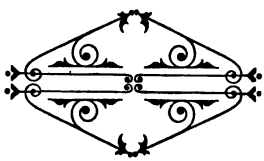
*August, 1884.

for our pharmacopeia. They emphasize the single medicine doctrine while dispensing several different kinds to be given at intervals of ten or fifteen minutes. These are the men who prate of being the "advanced thinkers" of the age, implying that no one else is trying to extend the knowledge or cure of diseases, while they bitterly oppose all efforts to enforce thorough medical education. These are the men who, to prevent the establishment of boards of health, go to the public and whine about "class legislation!" These are the men who are homeopaths in one house and in the next are anything that will suit. With these men we cannot consult. We want a basis of common honesty, at least, to say nothing of that dignity and education which should attach to a profession which deals with the dearest interests of humanity. We must treat them as we do those of our own practice, who with unblushing impudence placard the walls and fill the columns of the daily papers with boasts of their superior skill and false statements of cure.

But all members of our profession who advocate consulting with homeopaths may set their minds at rest. The homeopaths do not want us to consult with them. When we decline to meet them there is a loud outcry about professional intolerance, and bigotry and persecution. But during this great movement in the State of New York to terminate this schism, and bring about common consultations, not a motion in its favor was made on their side of the house. I have looked carefully through the files of their journals but failed to find one word of friendly advance. Of course schisms and sectarianism do not elevate medicine, or increase respect for it, any more than they do religion. It were better if this division was closed. But judging from the spirit of the times, it will be a long time before this sect disappears. The better portion of the homeopaths make no organized effort toward reunion; those who ply it merely as a money-getting calling will never leave it as long as principles and prejudices exist in the human mind which make it profitable.

The extent to which I have occupied your time allows but a single question as to the future. Shall we have any more systems in medicine? The nineteenth century is not favorable to their growth, as shown by the time which

has elapsed since the last was promulgated. Still there are signs in the air. Is pathology to be hereafter based on micro-organisms, and therapeutics to consist only in the administration of germicides? In the past, systems would have been built over and over again upon what we know already of minute organisms and their relation to disease. Let us not commit again the great error of the past, that of generalizing from too few facts, and if what has been said during this hour shall in the slightest degree tend to prevent this, then not in vain has this feeble effort been made to trace through the last hundred years some of the side currents of medical doctrine.



VITILIGO.

BY R. HARVEY REED, M. D., MANSFIELD, O.

Prof. Duhring defines this cutaneous disease as, "an acquired disease, consisting of one or more usually sharply defined, rounded or irregularly shaped, variously sized and distributed, smooth, whitish spots, whose borders usually show an increase in the normal amount of pigmentation."

To prove that this is a rare affection of the skin, it is only necessary to consult our standard authorities on this subject, on which point they all agree. In the analysis of eleven thousand cases of various skin diseases seen consecutively by Dr. McCall Anderson, he only met with four cases of vitiligo amongst them all.

It is not confined to any sex or to those of any particular complexion, age, or surroundings in life. It is probably more frequently noticed in early adult life, on the account of persons at that age being more particular in regard to their looks than at an earlier or later period in life, and not because that particular age predisposes to this disease.

It is *believed* to be caused by a lack of the proper action of the nerves controlling the supply and distribution of the pigment; but what the particular cause or causes are that predispose to this disturbance of innervation is as yet a mystery (so far as I am informed) to the dermatologists.

The pathologist tells us there is both an increase of the normal pigment in some places and a decrease or actual loss of it in others.

The pigment is distributed over the body naturally, except in one or more places, which may occur on any part of the body, but in my experience seems to prefer the face, neck, head and hands, although others have observed it to occur most frequently on the back of the hands and the trunk.

Around these milky white spots, which are more or less robbed of their natural pigment, are increased deposits of pigment which appears to be obstructed in some way in its course to this, particular part of the economy, and collects or dams up, as it were, all around this island of non-pigmented skin.

On examination of the diseased portion of the skin with the microscope, it will be found that in the one instance there is little or no pigment, while in the other there is a remarkable increase in the coloring matter of the skin, which gives rise to the peculiar mottled or spotted appearance of these patients.

The patient does not complain of any discomfort from the disease, but usually is chagrined with his appearance, and applies to the physician for relief on that account.

These spots may number from one to many, and may occur on any part of the body. Usually when they occur on the hairy parts there is canities, which when occurring on the face or head adds to the patient's disfigurement.

These spots may assume any imaginable shape, and when there are many I have often observed them coalesce; two or more white spots may unite into one, or two or more of the dark spots may join; usually, however, the former.

The skin is smooth and soft, with no visible depression or elevation from the surrounding integument,

The color of these spots is a chalky white, verging into a pink, surrounded with a dark-brown, or yellowish-brown corolla, as it were, both varying in intensity in proportion to the loss or increase of the pigmentation.

There is neither loss nor increase of the sensibility of the parts, and no itching of any kind, and were it not for the disfigurement occasioned by it the patient would not recognize its presence.

All authors agree on the unfavorableness of the prognosis in this disease, and its obstinacy to any treatment; it usually grows worse in the face of all therapeutic remedies, being seldom held in check, and rarely recovering a normal condition.

Usually it is readily distinguished from morphea, chloasma, tinea versicolor and lentigo, but should there be any question as to a differential diagnosis between this disease and the above it can be easily settled by the observation of the following characteristic points:

VITILIGO.	MORPHEA.
Chalky white or pinkish white spots varying from one to scores, of irregular shapes and sizes, surrounded with an areola of brownish yellow of varied intensity, which often coalesce.	Usually commencing with one or two isolated round or elongated pinkish or purplish spots, surrounded with a pinkish or violet border.
The skin is smooth and the outlines of the spots well defined.	The skin in the earlier stages is elevated, later may be on a level or, still more advanced, depressed below the surrounding integument, and the outlines not well defined.
The skin feels normal to the touch and the secretions of the derma unimpaired.	The skin becomes dry, has a polished look, or is often shriveled, while the secretions of sweat are either diminished or suspended altogether.
No pain nor irritation of any character.	Often associated with a tingling pain or numbness.
Has little or no tendency to recovery, spontaneously or otherwise.	While of a chronic character, has a tendency to spontaneous recovery.

With these few landmarks to guide us, and at the same time remembering that in vitiligo there are no structural changes in the derma, while in morphea there are, there will be little or no danger of mistaking the one for the other.

I have in two instances seen vitiligo mistaken for chloasma, notwithstanding the following characteristics between these two diseases:

VITILIGO.	CHLOASMA.
There is a loss of pigment in one place, with increase of pigment in another,	There is simply increase of pigment in one place, but no loss in any other,
May occur in either sex and at any age or time.	May occur in either sex, but is much more common in the female than in the male, and after puberty than before, and during pregnancy or menstruation than at any other time.
The prognosis is usually unfavorable.	The prognosis is more favorable and especially so when due to uterine disturbances.

If there is any question existing between vitiligo and tinea versicolor, the microscope will readily clear that up; for in tinea versicolor as in chloasma there is no loss of the pigment and really no increase of the true pigment, but a brownish discoloration of the skin from the presence of patches of the microsporon furfur, which gives the skin a mottled appearance.

These brown spots can be easily removed with the finger nail, however, by moistening them for a few minutes and scratching them gently, and when placed under the microscope will readily enable you to distinguish between them.

It is almost impossible to confound this disease with lentigo or common freckles. The size and shape of the spots, and the want of the characteristic chalky appearance of vitiligo, together with the rapid increase of lentigo by exposure to the wind and sun, which does not affect vitiligo, would readily enable the most careless to distinguish between these two diseases.

In my experience I have found the treatment of vitiligo exceedingly unsatisfactory.

It has only been my fortune to observe this disease in four cases, one in a female and three in males, and with one exception all were what would be considered robust, healthy persons, with good digestive systems; the exception was a healthy man of seventy-five years of age, but rather delicate and feeble.

The patient reported to me by a friend, was ordinarily healthy until taken ill with phthisis brought on by exposure.

The use of internal remedies is only valuable when the system is out of order in addition to the cutaneous affection. The idea of giving internal remedies with the vague hope of giving relief to this affection will only be met with disappointment, so far as my experience goes, to both patient and physician.

The use of arsenic, iron, and tonics in general, either with or without alteratives, has always proved unsuccessful in my hands in relieving this disease.

In the belief which generally prevails, that vitiligo is a nervous affection, I have used the hypophosphites in various forms combined with strychnia internally, associated with friction, frequent bathing, together with stimulating lotions or ointments, such as the bichloride of mercury and rosewater, or hydg. ammon. combined with ungt. aquae rosae; but none of these were followed with beneficial results.

The only remedy which gave any apparent benefit was electricity used twice a week or every other day, directly over the parts affected, applying one pole at the nape of the neck and brushing the affected parts with the other.

I append the following cases with a hope that they may excite further study on the part of the profession in regard to this obstinate disease, and thereby possibly develop some means by which these unfortunates may be afforded relief.

CASE 1. Miss W., aged 17, came to me May 12, 1882, and stated that about two years previously, she had noticed several white spots on the back of the right hand; a few months later white spots appeared on the right side of the face and also on the right side of the body.

She had applied for relief to several physicians, all of whom told her they were only "liver spots," which diagnosis was more deeply impressed on the patient's mind from the occurrence of a large white spot about the size of the hand over the region of the liver.

"Liver remedies" in connection with local applications were persisted in for months with no benefit. And the patient getting discouraged, and being somewhat jealous of her good looks, sought other medical advice.

On examination I found my patient afflicted with vitiligo and disfigured with a large irregular white spot on the back of the right hand, surrounded with a brownish or yellowish-brown corona, as it were, which faded off into the natural color of the skin. There were a few small spots on the back of the left hand, but the most prominent spots were found just in front of the right ear, extending back of the ear down the neck, also round the eye and over the bridge of the nose to the other side, where it did not spread much except just around the left eye. Several spots were found on the right cheek, which subsequently coalesced into a large one in front of the right ear.

The hair in front and above the right ear was white as snow, a streak of which bordered a portion of the forehead on the right side, while the eyebrows and eyelashes of the same side were nearly all white.

She had a number of spots on her body, varying in size from a pea to that of the hand, and all located on the right side.

I put my patient on the prescribed treatment of arsenic and iron internally, together with a wash of bichloride of mercury, which was substituted from time to time for other remedies of a similar nature, but all to no good, and finally closed up with a vigorous use of strychnia and the hypophosphites.

I at last discarded all internal treatment, as my patient was otherwise healthy, and resorted to the use of the battery. While this was kept up there was some improvement, the hair grew darker where it was white, and the white spots assumed a more natural color and their dark surroundings grew lighter. For unavoidable reasons my patient was obliged to discontinue all treatment during the past winter (at which time she was always much better, the disease becoming exaggerated during the warm months of summer,) and has only now returned with a determination to give the electric treatment a thorough and continued trial every other day for months.

CASE II. Rather a delicate man, aged 75, consulted me in the fall of 1882, giving the following history:

Had all along enjoyed good health, although never rugged; first noticed this disease on the back of the right hand; next on the right side of the body, and finally on the right side of the face and head. He stated it was about 50 years since he first discovered it; that he had frequently consulted physicians in regard to it, and had several times taken treatment. Nothing he took, however, had given him any relief.

Except the color, the skin looked and felt natural, and never annoyed him in any way except the disfigurement, and since his hair and whiskers had become naturally gray, the disfigurement was much less.

He was placed on tonics and alteratives with the use of the battery, which was not followed by any beneficial results. After assuring him there was no danger from the disease, and the only annoyance being the disfigurement, he concluded to abandon all treatment, and having moved away, I have lost all trace of him.

CASE III. An attorney, aged 34, was first seen by me in August, 1883, and gave me the following history:

He first observed the disease on the back of the right hand in 1872. It commenced with a number of small white spots, that gradually increased in size, and finally coalesced into one large, irregular-shaped patch, which covered nearly the whole of the back of the hand, with one small spot about the size of a dime on the metacarpal of the thumb.

Shortly after the disease appeared on the right hand, a small spot was observed just below and in front of the

right ear. This spot gradually increased to about an inch in width. On this spot the beard turned perfectly white. In about three years it began to return gradually to its natural color, a dark brown.

After his continuing to shave for quite a while, he found the improvement more marked, until at the expiration of two years the beard had regained its natural color.

After the disease showed itself on the right side of the face, it extended to the chin and around the eyes, and finally it manifested itself on the left hand in a few small spots. These did not extend nearly so rapidly as on the right hand until recently. They are now increasing with even more rapidity than they did on the right hand.

This gentleman having been told that treatment was of no value, has never done anything for the disease at all, which is still slowly spreading.

CASE IV. A runner, aged 33, a robust, strong, hearty man, with dark brown hair and light brown whiskers, had never been ill until recently, when he contracted syphilis, of which he was suffering from the secondary effects. He applied to me for treatment in March last for the specific trouble, when the vitiligo was observed, and the following history was obtained: He first noticed a number of white spots on his right hand about twelve years ago. They gradually grew large and coalesced into three, with marked dark-brown rings around the white. Soon the right side of the face became affected, the spots extending into the hair on the scalp, which turned white wherever it was thus invaded, the whiskers sharing a similar fate. A few spots occurred on the left hand, and a few on the left side of the face. Both eyes were surrounded with a ring of white.

He had been treated more or less for it, but received no benefit, and for several years had done nothing. I advised him to use the battery, but owning to his business, which kept him away from home all the time, he did not think he could carry out the treatment, and passed out from under my observation.

The following case was reported to me by a friend who had observed the case, which occurred in a doctor aged 30, who first noticed it in 1869, occurring nearly simultaneously on the hands and face, which were soon al-

most completely covered with chalky white spots surrounded with dark brown borders. The beard became snowy white excepting just in front of the ears, where it remained a dark brown. The patient was healthy until about three years previous to his death, in 1883, from phthisis pulmonalis induced by exposure.

There was no invasion of the scalp, the hair which was a dark brown remaining normal, which with his long, snow-white beard gave him a conspicuous, novel appearance.

Nothing in the way of treatment ever gave him any relief, and it not having given him any annoyance, he submitted to that, which gradually increased until his death, as previously stated, from phthisis.

If this disease is a nervous affection, it must certainly be located somewhere in the great sympathetic system, and by some disturbance of that, interferes with the blood in its distribution of pigment to certain parts of the derma. In the cases I have given, it seems to have started in all but one on the right side, and in that, the observations were not accurate enough to decide exactly whether or not it commenced on the right or left side first. In these cases I am inclined, however, to think its occurrence on the right side was only a coincidence, rather than the result of specific causes.

In the limited observations I have made I am not fully persuaded that the causes are located solely in the nervous system; there is a possibility that a primary cause may exist in the capillaries themselves, or in that part of the derma in which the pigment is deposited.

The fact that electricity benefits some of these cases, does not prove that all the causes of this abnormal condition lie in the nervous system alone. It is quite possible that stimulating the nerves by electricity has its influence in correcting the duties devolving on the capillary system as well.

Until there is more light thrown on this interesting disease, which we trust this paper will have the effect of calling out from others of the medical profesion, and a definite knowledge obtained in regard to its exact pathology by practical demonstrations, I for one will receive the theory of its being a *purely* nervous disease under protest.

VESICAL EXPLORATIONS.

BY P. S. CONNER, M. D., CINCINNATI, O.,

Professor of Anatomy and Clinical Surgery, Medical College of Ohio, etc.

Morbid conditions of the bladder and prostate may or may not be easily diagnosticated. Given a certain well known aggregation of rational symptoms, and the presence of a stone may be confidently assumed; certainty of its existence being shown if the proper physical signs are manifested when the urethra and bladder are thoroughly sounded. But, on the one hand, though a calculus be present it may be so small as to escape detection (caught perhaps between two thickened mucous folds), may be sacculated, may rest in a pocket behind the prostate partly or wholly below the bladder level, or may be of such putty-like consistence as to give out an uncertain muffled sound when touched; or, on the other hand, an incrusted ridge or tumor may distinctly "click" when struck by the searcher.

Again, the rational signs being present but the physical absent, rectal palpation may reveal tubercular disease of the prostate and seminal vesicles, associated probably with similar disease in the testis, the vas deferens, or some more remote part of the body.

Exploration with the sound and with the finger in the rectum will usually determine the existence of prostatic hypertrophy, but limited enlargement of the third lobe will sometimes escape detection.

Careful sounding with searcher or lithotrite may make manifest the presence of a vesical tumor, even approximately its size; or, occasionally by palpation, rectal, abdominal or conjoined, an abnormal thickening and induration may be located.

Endoscopic examinations, of which so much was at one time hoped, have, as a rule, even when made by ex-

perts, proved of little value; such exploration, however, being much more satisfactory in the female than the male.

Generally, then, the before-mentioned methods of exploration, one or more will, (when supplemented, as they always should be, by an urinalysis, chemical and microscopical) suffice to indicate very clearly the nature of an existing vesical trouble; but in certain cases, proportionately few in number it is true, the diagnosis is but inferential. It is in these that the quite recently introduced digital exploration affords information of the highest value; a method the credit of systematizing which is due to Sir Henry Thompson. By the ordinary perineal section the membranous urethra is opened, the prostatic portion of the canal is dilated, and the finger pushed on into the bladder. The condition of the prostate and the *bas fond* determined; by supra-pubic pressure with the other hand the fundus is readily brought within reach of the finger tip, and the whole mucous surface can be palpated, its irregularities noted, the presence, location, size and character of a growth ascertained, and a concealed foreign body, even a stone in the lower part of the ureter, discovered. In two cases which I have lately thus examined, the condition of the bladder was practically as readily and thoroughly ascertained as if the cavity had been opened up *post mortem.* Although, and this is an objection that has been strongly urged against the method, in very fleshy subjects, or when the perineum is unusually deep, or when the prostate is greatly enlarged, it may be difficult to reach and impossible to explore the bladder digitally, yet in the great majority of patients the finger can be made to sweep the surface of the bladder, and no one without having actually tested it can, I am sure, appreciate the ease and completeness with which by pressure upon the lower anterior abdominal wall (under an anesthetic, of course), the upper segment of the bladder can be brought within reach of the finger introduced through a perineal opening. The operation is a simple one, merely the ordinary external perineal urethrotomy upon a groved staff, and, *per se*, is almost devoid of danger, as much so, I think I may safely say, as amputation of a finger. Of course the subjects of perineal section not infrequently die, and a percentage of those digitally explored will without doubt die (within a few days perhaps, more likely weeks); but the fatal result in neither class of

patients is, other than most exceptionally, due to the urethrotomy. Guyon and certain of his followers among the French surgeons, who advocate the supra-pubic rather than the perineal operation, have strongly insisted that there is positive danger in the dilatation of the prostatic urethra because of the lacerations thereby produced; and perhaps more extended experience may show that there is some ground for their objection to the exploratory urethrotomy. But the danger certainly is not grave, and the advantages of an accurate diagnosis are great.

What one of us who has had any considerable experience in the surgery of the urinary organs cannot recall a case or cases in which had he known *before* what he ascertained *after* death, and which he would have known had he carried his finger into the bladder and swept its surface, he might readily have relieved if not absolutely cured? Three times on autopsy I have seen an hypertrophied third lobe, that, acting like a ball-valve, had induced fatal disease of the bladder and kidney; in each of which cases digital exploration would have readily established the diagnosis, and through the perineal wound the growth might easily have been snared and removed.

Intra-vesical growths have time and again been permitted to develop, exhausting and ultimately destroying the patients, for the simple reason that the diagnosis was uncertain, and absolutely nothing was known respecting size, location or manner of attachment. Digital exploration could have revealed all that was necessary to be known, and in many a one of the cases the growth could have been taken away through the original opening, or, as in Billroth's case ten years ago, through a second and larger one above the pubes. Even if the exploration shows that there is nothing to be or that can be taken away, the operation wound will greatly facilitate that cleansing and drainage that so much increases comfort and prolongs life. For every reason, both as respects diagnosis and treatment, digital exploration should always be made when the other more ordinary and long-practiced methods of examination have proved insufficient. In quite young children, lateral rather than median urethrotomy may be performed; since such operation does not materially increase the danger to life, and relieves the surgeon of the trouble, at times quite considerable, of dilating the prostatic portion of the canal.

DISCUSSION.

DR. HALDERMAN, of Columbus: This paper should not be allowed to pass without some remarks. I do not know that I can add anything to what has been said about vesical exploration. There is one feature of this subject, however, which the doctor does not speak of.

I have found a great advantage in a thorough dilatation of the rectum in making examinations of this kind. I recollect a case wherein the patient passed feces through the urethra, and a recto-vesical fistula had been diagnosed. Dilatation of the rectum showed there was no communication between it and the urethra. It is perfectly wonderful, the size to which the rectum may, with impunity, be dilated. The surface of the bladder corresponding to the Trigonal space, or that part of the rectum, can be not only felt, but seen. The best method of doing this is with an instrument. There are many instruments in use for the exploration of the rectum, but the speculum of Sims, large size, is probably the most effective. With this large speculum introduced into the rectum the surface can be seen and felt; in fact, the bladder can be explored. By this method it was decided that there was no recto-vesical fistula in the case mentioned, that the fecal matter came from a point farther up. It came, in fact, from one of the small intestines. This also decided another point: that there was a stone in the bladder in addition to the other complications.

In regard to the points presented by the paper, I think they are certainly well taken. This paper does one thing for us: it gives us something to fall back on. But I must confess that it is a rather bold proceeding to subject the patient to this kind of an operation simply for diagnostic purposes. I hardly agree with the gentleman in regard to the absence of danger. I think the doctor would hesitate to avail himself of this method in the ordinary course of his private practice. It is a very different matter in a hospital, where many chances are taken that I think would hardly be taken in private practice. How many of you gentlemen would wish to subject yourselves to such an operation, you who know the dangers attending it? It is very well known that in some cases the simple use of the catheter, the passing it into the bladder, will bring a chill and the results may prove fatal. I have always been among those who have advocated that the simple fact of

opening the bladder by means of a clean incision was ordinarily attended with very little deleterious results; that it was not the incision that created the danger, but the subsequent manipulations. This is proven by what takes place in the operation of crushing a stone. In the hands of an inexperienced person very little mechanical interference with the bladder, may, in some cases, prove fatal.

The operation, for mere diagnosis, should not be undertaken. This should be by explorations through the rectum, conjoined with counter manipulations over the abdomen, as used by the gynecologist. This will do a great deal towards establishing the presence of any trouble in the bladder, and it is very easily and simply done.

DR. THORN, of Toledo: I can bear testimony to the advantages of palpation in making these examinations. In a case recently in my hands, when I had incised the neck to relieve vesical irritation, as a result of this manner of examination I found the bladder divided by a constricting band, like an hour-glass contraction. The lower segment, representing the bas fond, was thickened and contracted, that portion of the bladder above the narrowing being, to all intents and purposes, or to the feel, normal. The knowledge gained by this form of examination, so easily made, decided the future treatment of the case. In the female, the full sweep of the bladder by the finger may be made after freely dilating the urethra.

I would also like to say in addition that the Simon is better than the Sims as a rectal speculum. I have made the exploration as described by Dr. Halderman.

DR. RANSOHOFF, of Cincinnati: I hope the remarks of Dr. Halderman will not deter gentlemen from making perineal incisions. I know very well indeed that if I were the subject of an obscure bladder trouble, in which neither tumor nor foreign body, nor stone existed, I would rather have some one perform this operation and determine the cause of the difficulty. I have a patient on whom six months ago I made a perineal section, and nothing was found; but the patient was relieved, and for three or four months was free from pain, and I am sure this patient will again submit to an operation for the purpose of obtaining even

temporary relief. I think there is little or no danger in this operation. You divide nothing of importance. The operation is made directly in the median line. I have myself brought a little specimen in which the diagnosis was made exclusively by rectal exploration.

DR. CONNER, of Cincinnati: I am sure that my paper sets forth clearly the advantages of the various explorations which may be undertaken. Among these was the advantage of rectal exploration. We cannot explore the bladder as we can the uterus. In many of these cases we are absolutely in the dark. It is in this class of cases that we have so much to recognize in this lately introduced operation. We divide nothing but the tissues overlying the membranous portion of the urethra. I have made this operation over and over again. I think I can rake up the records of more than one hundred cases, and in not one did death occur from the section of the membranous portion, but from the causes which made the section necessary. I have used it in my private practice. If I, myself, had an obscure affection of the bladder, I would have a perineal section made to ascertain the true condition. The danger is not in the operation, but in the causes which make the operation necessary. The operation adds immensely to our resources. Having exhausted rectal dilatation by means of the speculum, after having exhausted the chemical and microscopical means of diagnosis, we have this operation as a last resort, and this will often clear up the diagnosis. It is beyond doubt the greatest advance made in urethral surgery.

ABDOMINAL SURGERY IN EUROPE.

BY RUFUS B. HALL, M. D., CHILLICOTHE, OHIO,

Fellow of The British Gynecological Society of London, Etc.

The subject selected for my paper to-day is not one of original research and investigation, but more in the nature of a narrative relating in detail the methods followed in performing abdominal operations by the different leading men of Europe. I have selected as a basis of what I shall say, the description of the method of operating by that illustrious surgeon, Dr. Thomas Keith, of Edinburgh, who has done so much good work, and yet has written so very little. I hope it will prove not only interesting in itself, but will afford an opportunity for some general observations gathered in the leading medical centers of England and the Continent. At the first thought it may impress not a few of my hearers that to listen to the description of an operation would be a waste of valuable time. But when we consider the fact that to bring to a successful termination a case *after* an ovariotomy depends so largely upon the faithful performance of every detail, as declared by that brilliant and successful surgeon, Mr. Lawson Tait, it ought to be worth our time to study them carefully. He says "that a recovery after an ovariotomy is the sum of a number of details, all of which were efficient. A death, on the contrary, may be the failure of but one only, and that may be, or may not be, under the control of the surgeon." That such a distinguished and successful operator, as we all know him to be, attaches so much importance to every detail of the operation in this rapidly growing branch of surgery, is my excuse for thus occupying your time. I shall first describe the method of operating by Dr. Keith, after which I shall point out where each of the leading surgeons of Europe differs f

him on this subject. Dr. Keith attaches great importance to the previous preparation of the patient for all abdominal operations. He does not hesitate to keep them under his own observation, in the hospital, for weeks, if their general health is not satisfactory. During this time they are "treated well and fed well," as he styles it; in other words, he improves their general health, at the same time correcting any functional difficulty that may exist. He frequently has patients sent to him from distant points who have deferred the operation until they are in a very low physical condition, with very large tumors and high evening temperature, etc. To perform ovariotomy at that time, with the patient in such a condition, might prove speedily fatal. In all such cases, after a few days' rest in bed and proper treatment, if they do not rapidly improve in their general health, he always taps the cyst; but this tapping is only intended to temporize. By this means he thinks it allows them to gain strength and to get into a better condition for the operation which he usually performs before the cyst again refills to its original size. He says no harm ever results from tapping in such cases; but great improvement in their general health follows in the great majority of them. An ovariotomy may then be performed with greater hopes of success. For forty-eight hours before the operation the patient's food is limited to soup and a little bread; and she is given a dose of castor oil the morning of the day previous to its performance. Full antiseptic precautions are observed in all cases *except* the use of the spray. He uses a two per cent. solution of carbolic acid for the instruments and the sponges. He is extremely careful that his hands, as well as those of his assistants, are scrupulously clean; and for cleaning and disinfecting them they are first washed in a strong solution of bicarbonate of soda, using soap and the nail brush freely, then in a solution of bichloride of mercury 1 to 1,000, after which he again washes them in a solution of carbolic acid 1 to 20. He is by no means certain, he says, that carbolic acid does any good, but, feeling that it does no harm in the manner he uses it, he is not yet ready to discontinue its use. All operations are performed in his private hospital or in the new Royal Infirmary (or Hospital) where the Board of Managers gave him the entire control of two rooms for this special purpose, one to be

used for abdominal operations only, the other for the reception of convalescent patients. These rooms are situated in the main building, but have no communication with any of the wards, but, on the contrary, they are quite a long distance from them, and are as near separate from the hospital as possible, whilst they are a part of the same building. The patient is kept in the operating room until she is considered to be out of danger, when she is removed to the other room, which is near and contains three beds. These rooms do not communicate with each other. The nurses or attendants about the hospital are not permitted to enter these rooms. Dr. Keith has one trained nurse who has had charge of all cases operated upon in that hospital by him. She does this and nothing more. She is not required or expected to go into other parts of the hospital, and when not engaged she has apartments, where she lives, across the hall from these rooms. By having entire control of the rooms he can have the operation and after-care of the patient as private as he desires.

The first operation made by Dr. Keith, in the new infirmary, was on the 13th of January, 1880, and by his report to the managers of that institution, from that date to June, 1883, I find that in all he had performed seventy-nine abdominal operations. Of this number there were sixty-eight ovariotomies with four deaths; ten hysterectomies without a death—this being the only instance on record of a series of ten consecutive successful hysterectomies; and one hysterectomy and double ovariotomy at the same time—in this case the patient died, making five deaths out of the seventy-nine cases. Ether is the anesthetic used in all cases. The patient is anesthetized on the bed and then lifted upon the table, the object of this being that she may be saved the distress of seeing the preparations which have been made for the operation, as the instruments and other appliances are not brought into the room until she is unconscious. When she is placed upon the table her legs and arms are secured by belts, and a waterproof sheet, with an opening large enough to expose as much of the abdomen as desired, the inner surface spread with a coating of adhesive plaster, is then secured in place. Everything being now ready to commence the operation, the visitors, who are always limited to a few, are invited into the room. The Doctor is always assisted

by his son, Dr. Skene Keith, and another son, a student of medicine, administers the ether. He has no other assistants. He begins the incision midway between the umbilicus and the pubes, and cuts downward for a distance of about three inches, going completely through the integument and subcutaneous fat at one cut. After that he cautiously divides the tissues until the peritoneum is exposed. A pause is then made and every bleeding point is secured by a pair of scissor-handle pressure forceps. When all have been carefully secured he opens the peritoneum to an extent corresponding with the wound in the other tissues. The cyst being now exposed he taps it with a large-sized siphon trocar, and empties it as quickly as possible. After the cyst is emptied, if the opening in the abdomen is found to be too small to allow the tumor to pass easily through, it is enlarged to the required extent with scissors. If the tumor proved to be only a thin-walled parovarian cyst, without adhesions, it could be easily removed through the short incision; but if it should be multilocular, with adhesions and a large part of it solid, the incision may be extended further. Dr. Keith prefers the actual cautery for dividing and securing the pedicle to any other method, it yielding the best results in his hands. But all cases cannot be treated with the cautery in the manner in which he employs it, as it is necessary that the tumor should have a pedicle of some length, and the pedicle not too friable, so that it could be secured with a peculiarly devised temporary clamp outside of the abdominal cavity, while the cautery is being used, and not be pinched off when the clamp is tightened. In all cases where the cautery cannot be used he employs the ligature. Out of the sixty-eight ovariotomies mentioned above, he treated the pedicle with the cautery fifty-three times, with one death. In two cases he used both ligatures and cautery and the patients recovered. In thirteen cases he used ligatures only and three died. It is not to be believed, however, that the ligatures were the cause of the high death rate, for these cases were not considered suitable for the cautery and he was therefore compelled to use the ligature. It is to be supposed that in the last thirteen cases that the operation was more complicated and dangerous in every way. But I will only mention the complications of the three fatal cases in support of this theory. The first had

been previously tapped seven times; had parietal and omental adhesions, also adhesions to the bladder and uterus. The second was tapped twice; had firm parietal, omental, mesenteric and intestinal adhesions. The third was tapped twice; parietal, omental and mesenteric adhesions. It is quite evident that the operation was a prolonged and severe one in each case, and that the cause of death was not the ligatures used. Silk is employed for securing the pedicle when treated by means of ligation; but carbolized catgut is used for securing bleeding points inside of the abdominal cavity and for portions of omentum that require to be removed. He does not cauterize the stump of portions of omentum removed. He takes great care to see that the peritoneal cavity is thoroughly cleansed; sponge after sponge is introduced until they return perfectly clean. If there has been many adhesions he uses a glass drainage tube and removes its contents every two or three hours. The tube is removed as soon as the oozing stops. Silk is used for sutures in closing the abdominal cavity; a needle is attached to each end of a piece of silk about fourteen inches in length, and the needles are passed through the tissues from within outwards so that they include about one-third of an inch of tissue on each side of the incision. After closing the wound with the deep sutures he uses a row of superficial sutures of horsehair, placing one or more between each of the deep ones. The dressing consists of six or eight layers of gauze, upon which is applied a mixture of carbolic acid and glycerine, 1 to 8; over this a quantity of absorbent cotton, and a flannel bandage over all. As soon as the patient is put to bed she is given ¼ of a grain of morphine hypodermically, and as a rule she gets from four to six hours of sleep immediately after the operation. The morphia is continued at intervals varying from six to eight hours during the first five or six days after the operation. This, however, is not the case with Mr. Lawson Tait, who seldom gives a patient a single dose of morphia, and when he is compelled to do so to relieve pain he uses it with the utmost caution. The difference in the after treatment of the patients regarding the use of morphia by these two distinguished surgeons is not more marked than the difference in some of the details of operating by the different leading men, some of the principal ones I will now mention. The

so-called antiseptics, in some form, are employed by the large majority of them; but I am compelled to say that not all those who use them have the same faith in their protective powers. Dr. Martin and Prof. Schroeder, of Berlin, and Mr. Knowsley Thornton, of London, use the carbolic acid spray, and full antiseptic precautions are observed in each case. Prof. Billroth and Prof. Brown, of Vienna, use a two and a half per cent. solution of carbolic acid for their instruments and a one and a half per cent. solution for their sponges, and full antiseptic precautions are observed, except the use of the spray. Dr. Bantock, of London, has about abandoned the use of all antiseptics. He, however, uses iodoform, in powder, about the pedicle of his cases of hysterectomies. And Mr. Lawson Tait has very recently given up the last vestige of antiseptics, not employing them in any manner, even for the cleansing of his hands or sponges in preparing for an operation.

Dr. Bantock employs silkworm gut for closing the abdominal cavity, but he uses silk for ligating the pedicle and pieces of omentum and bleeding points inside of the abdominal cavity. All the other men mentioned employ silk for ligatures and sutures, except Keith; Billroth and Brown cauterize with the thermocautery the end of the pedicle and stumps of omentum removed after first ligating them with silk. As regards the length of incisions, Tait makes very short ones, Martin very long, whilst Keith and all others make incisions of medium length. Drainage tubes are used by all, but by some more frequently than others. Martin prefers to drain through the vagina. He makes an opening through Douglas' cul-de-sac and secures in place a peculiarly-devised soft rubber tube. Billroth and Brown drain through the wound in the abdomen by means of gum tubing. All others drain through the wound in the abdomen, using glass drainage tubes.

EMPYEMA.

Its Treatment by Daily Aspiration Through a Drainage Tube.

BY DR. DAN MILLIKIN, HAMILTON, OHIO.

For one neither skilled nor experienced, nor greatly interested in surgical matters, to take up a subject which is essentially surgical in its nature, is a performance so strange that I protect myself in advance by a statement that I only approach the topic of empyema as a theorist. I merely throw out a hint of a new line of treatment, and seek to be instructed rather than to instruct.

Two or three years ago I had charge of a fine, stalwart Irish-American patient, a male, twenty-two years old. He had come home from a distant city feeling that he was stricken with grave disease, and, like most of us under such circumstances, wanting to see his mother. He developed a fine and typical case of typhoid fever which reached and passed its crisis in safety and left him in fairly good order.

When his evening fever was almost reduced to no fever at all, he developed a pneumonia in the left lung, which was also typical in its course. It extended from the apex so far as to involve about one-half of the lung. Resolution began and proceeded rapidly. When the young man began to go about and to be ravenously hungry I saw him only occasionally, and I think I had determined to see him no more when I was called back by his faithful mother.

I found universal dullness over the left side of the chest. The man was panting. His face was livid. His appetite was gone, although he had little or no fever. His pneumonia, while resolving, had become a pleuro pneumonia, and the left pleural cavity was full of pus.

His distress being very great, I made all haste to as-

pirate, and obtained a great quantity of horribly offensive pus. Two or three days afterward I aspirated again, and drew off a small amount of pus to be sure I was in the pleural cavity. Then, using the aspirator needle as a guide, I passed a very small knife alongside it into the pleural sack. Into this channel I slipped a grooved director. The needle was then withdrawn, and a small Nelaton catheter was passed on the director. Through this catheter, which was thereafter to perform the functions of a drainage tube, I aspirated a small quantity of pus, to assure myself again that I was in the pleural cavity, and then withdrew the director.

Treatment consisted in a daily withdrawal of pus until the patient complained of tightness, oppression or pain. At the appearance of this symptom a quantity of antiseptic fluid was thrown into the chest throngh the tube. Fluid was withdrawn and injected at each sitting, until it returned clear, and at the end of each sitting, it was so thoroughly withdrawn as to leave the patient in some slight distress. The whole treatment was with the aspirator, which constantly informed me of the quantities of fluid withdrawn or injected, and also informed me approximately of the amount of tension or vacuum produced at any time. Recovery was rapid and complete, notwithstanding the patient had been much reduced by long illness.

While this case was still in my hands, I sent a tuberculous youth to New Mexico, and on the way he developed a pleurisy which proved to be purulent. He lived in New Mexico for some weeks with one side of his chest full of pus, and finally dragged himself home to die. The condition of affairs being determined soon after his arrival, I proceeded as in the case just narrated. Little hopes were entertained of a cure in his case because, for a long time, various physicians had endeavored to "dry up" a suppurating ear and a small sinus at the margin of the anus, but it had always appeared to be true, as his friends said, that "nothing would heal up" on his person. Add to this that he was already far advanced in that decline with wasting of tissue which we all agree with the laity to call consumption.

He died with every indication of softening of the best and uncompressed lung, within ten months of the date of the time of opening the chest, but, long before his death,

the pleural cavity which I was treating had healed completely. The sinus and the ear continued to suppurate, but the purulent pleurisy was healed in the very presence of a decline.

I trouble you with these two cases only, (for that ends my experience with empyema treated with daily aspiration,) but I venture to lay down the following principles of treatment, not dogmatically, but soliciting your discussion and correction.

I. I think I see an advantage in the small opening originally made in the wall of the chest. Other things being equal, a small hole in a man's skin is better than a large one. Other things being equal, one hole is better than two. Except upon some urgent indication, clearly shown, we have no right to attack a rib.

II. If there was no contra-indication, it was a positive blessing to these patients that the pus only flowed when the doctor was present. The clothing was always clean and dry.

III. This leads me to say that the junction of the tube and the wall of the chest was not only tight at the beginning but it remained so, rarely permitting the escape of pus alongside the catheter, and never permitting the entrance of air into the chest. After each sitting the end of the tube was closed by a pair of flat pincette forceps which were then laid flat on the side of the chest to be secured by a few adhesive straps. As the forceps were always laid on the same or nearly the same spot, the process of absorption gave to the catheter an oblique entrance into the chest such as the ureter makes into the bladder. The entrance was therefore always valvular, and, while fluid occasionally found its way out of the chest, I could never ascertain that air passed in. The few granulations that sprang up about the wound appeared to make the orifice more strictly valvular.

IV. The tube was always safe; there was no possibility of its slipping into the chest through any carelessness of the patient or any soaking of dressings. A recent article in the New York *Medical Record* will illuminate the mind of any one who assumes that there is no danger of the ordinary drainage tube slipping into the chest. The constant motion of the chest, and the production of a slight vacuum at each inspiration certainly does invite this

very accident, and, in the article to which I allude, scores of cases are recorded involving an untold and unspeakable amount of risk and suffering. As I treated the cases which I have reported, the pincette forceps were never removed until the little catheter, which served me for a drainage tube, was fitted to the aspirator, and, as a matter of routine, the tube was never disengaged from the aspirator until the forceps had been again applied. There never was a time when the tube was not attached to the aspirator or was pinched by the forceps.

V. It is hardly worth while for me to lay down the very evident principle that before a purulent pleurisy can be healed, expansion of the lung on the affected side must take place or collapse of the affected side of the chest must occur to close the abhorrent vacuum. It may, however, be worth while to remark that any sort of treatment which directly solicits the expansion of the lung, and, failing that, the collapse of the chest is commendable. Using the aspirator as I did, it was my policy to make such suction as would cause some slight but unequivocal distress at each sitting, and, on the other hand, when I replaced the pus by throwing in some antiseptic fluid, I took pains to throw in less—always less—fluid than I had withdrawn. It will occur to you that the aspirator made me master of all degrees of tension or of vacuum and furnished me with a constant and accurate measure of the fluid withdrawn or injected.

I would not be tedious, but I desire to insist that the lung was subjected to a daily stretching by the use of the aspirator, such as it could have had by no other convenient means, and such as it could not have had at all with a free opening in the chest. If I may judge by the feelings of tightness and oppression, which my patients complained of, I am assured that I commonly left them with a partial vacuum which persisted to an appreciable degree for nearly an hour, and I venture to say that this was a very valuable sort of movement cure to the lung itself. In short, the treatment pursued expanded the lung, and I do not know of any other treatment that does not promote its collapse.

VI. In cases where, for any reason, the lung cannot expand, the cure can only be accomplished by a partial collapse of the chest wall, and this, also, is favored by the partial vacuum which I recommend.

The same claim may be made regarding the mediastinal boundary between the pleural cavities. The daily aspiration which I recommend solicits the mediastinal structures to present a convexity to the affected side of the chest and thus to give to the sound and expansible lung the more room to perform its vicarious functions.

VII. The aspirator used for the drainage and cleansing of one pleural cavity has the further advantage of causing drainage without regard to gravity. When suction is made, the tendency of the pus is constantly toward the point of least resistance, which, in this case, will be at the point of the catheter. Supposing the lung to be expanded and more or less accurately applied to the chest wall, it must squeeze out the pus from all parts of the pleural cavity to that point where suction is already inviting it. Up hill or down, the tendency is for pus to travel to the point of the catheter, and, theoretically at least, this seems to be much more scientific and precise than to depend on gravity to lead the fluid to an opening, or to two openings, when we know well that gravity cannot coax pus out of a depending pocket, if any there be.

DISUSSION.

Dr. E. F. WELLS, of Minster: I have listened with a great deal of attention to the very valuable paper of Dr. Millikin. It is certainly a very valuable contribution to the literature of the association. The subject of empyema is certainly a very interesting subject to us all. I wish to briefly call attention to one point and that is the closure and the filling up of this cavity after a fistula has been established. Some four years ago I treated a little girl. She had run down, became anemic because the parents peremptorily refused to allow an operation to be performed. The spleen became greatly enlarged, and one day in making pressure over the spleen I found that the pus flowed more freely from the fistulous opening. Acting on this hint, I had made an elastic bandage and from the very first day after this bandage was applied the quantity of pus decreased. The bandage was continued for several weeks. I examined the child a short time ago and found that the lungs are entirely free. At the base of the left side there is a constriction of about an inch—it does not expand. I

think this method of treatment is useful, that it will be of great benefit in many cases, and that it will take the place to a great extent of resection of the ribs which has been used for the same purpose.

Dr. CONNER, of Cincinnati: I wish also to bear my testimony to the value of the paper presented. These two cases described certainly turned out very well. I cannot, however, but think that if the doctor had twenty-two cases instead of two, that they would not all turn out as well as these did by simple aspiration. I have seen aspiration succeed apparently for a time, and afterwards the case had to be operated on still more extensively. In very many of these cases expansion is an impossibility, and it is in these cases that we have the persistence of the trouble and in these cases aspiration entirely fails. I have a case in mind which had lasted three or four years, but this patient's life was saved by a free incision through the walls of the chest. In many of these cases nothing but the taking away a part of the rib will allow proper cleansing of the cavity. I have seen cases in which it seemed to me that a single opening did not accomplish the purpose. If aspiration will answer, certainly it is vastly simpler; but if it is found that aspiration is not going to succeed, other methods must then be resorted to. This cannot be done unless a free opening is made and retained, and it is not altogether without danger.

Dr. RANSOHOFF, of Cincinnati: I can only agree with what has been said as to the little value of the aspirator. It is really of but little use. You will draw two or three ounces of pus from the cavity and then your needle becomes clogged up and that puts an end to the aspiration and the little plug of lymph must be pushed back. There may be some value attached to the use of the aspirator in pushing out the lung, but if I understand the case as stated, when the first aspiration was made there was a fetid odor to the pus. Then there must have been some opening for the air to enter by the trachea and the pulmonary cells were open. No aspiratory force could possibly be exerted upon the lungs if this was the case.

Last year I had occasion to refer to the case of a little boy on whom I operated. Dr. Nichols operated upon a boy six years of age on the twenty-first day of the history of the case, and in that case the recovery was excellent.

As a general thing, early operations should be followed by beneficial results, while late ones are not. If the operation be performed early, the lung can then expand, unless there are old adhesions which bind the lung down. But if you wait six or eight months, the probability is that the lung cannot expand. Of course I speak now only of cases of empyema which are not associated with tuberculosis. All of my cases, with the exception of one, have died when associated with tubercle. The President told me of a case in which the drainage tube was retained for two years without any advantage. The drainage tube in one case was lost in the pleural cavity. It had assumed a semicircular form but not a particle of damage resulted from its retention. Early and free incision is, I think, the thing to do in treating empyema.

Dr. KINSMAN, of Columbus: I am not a surgeon, yet I have had some experience with these cases of empyema that was pleasant, and some that was quite unpleasant. The theory when I went into practice was the persistent drainage of this cavity by the insertion of the catheter and by other means. I remember one of these cases. It was that of a rebel prisoner who was brought to the town where I lived. He was suffering from empyema. He was treated by injections of small quantities of medicated water and then it was pumped out. A tent was inserted and that was withdrawn the next day. At last on one occasion the tent was missing. It was at first supposed that it had been rolled up in the dressings. A search through the dressings, however, failed to discover the tent and it was never found. I said it was never found: It was found finally, I found it at the post-mortem. I should say that after the disappearance of the tent the patient rapidly grew worse and finally died.

I have seen most of the patients suffering from empyema recover under that form of treatment. I would not hesitate a moment to make a free incision in the chest. That is my view about this.

I have in my mind the case of a patient who had empyema from a gunshot wound. The wound had closed on the outside. A free incision was made and the patient rapidly recovered. Another case in which there was a fistulous opening which had existed for three years. The smell from this patient was very bad. The whole atmos-

phere of the room was horrible. A free incision was made, wide enough to insert three of my fingers. It closed in six weeks. I saw a case last February that closed in less than four weeks. In all these cases progress to recovery was rapid and was all that could be desired. If you open the cavity freely I do not care how much air gets in. It is not possible that it can produce sepsis if the pus is free to move. It is not pus that can move that produces sepsis, it is the pus that is confined and cannot move. I would recommend a free incision between the ribs in every case whether acute or not. I do not take any stock in this idea of Dr. Millikin's in regard to the influence of the aspirator in exhausting the air and stretching the lungs. A French surgeon reports a number of these cases, and in four of the cases in which the aspirator was used he states that its use produced internal hemorrhage. He said he would hereafter operate by free incision. I look upon this idea of the aspirator producing a vacuum as a mistake.

Remarks And Cases Connected With Medical Examinations For Life Insurance.

BY ISAAC N. HIMES, M. D. CLEVELAND, OHIO.

I desire, in this paper, to notice some subjects, not chosen because of a special importance, but such as have an occasional or recurring interest to those who, as an accompaniment of their medical or surgical practice, have to do with examinations for life insurance.

1. THE INFLUENCE OF LIFE INSURANCE UPON PERSONAL HYGIENE AND THE HYGIENE OF CITIES.—The time will perhaps come when life insurance will be esteemed as much a necessity as fire insurance. At present the dictum of boards of fire underwriters is heeded by cities. When they say that more fire engines, and other appliances to prevent and extinguish fire, must be provided, else the premium on fire insurance will be raised in such city, their warning results in action by the authorities. Probably life insurance companies will come to look into the hygiene of cities in which they take their risks; and they may have a good deal of influence when they declare a city, or some portion of a city, to be too unhealthy to take risks upon the lives of residents, or of persons whose business hours are spent in such locality. Even now, some effect is produced by that knowledge which the public and individuals receive, when they perceive the care which is taken in the process of a medical examination, and the inquiries made into the hereditary tendencies and personal habits which accompany it. Also, the rejection of a candidate on account of some abnormal condition of the kidneys, urethra, lungs, heart or brain, brings home to friends, and to the applicant himself, the influence which habits and surroundings are exerting upon the health. The rules of health are thus impressed in a more forcible way than by lessons which are not connected with finance.

2. SOME CONDITIONS OF DOUBT IN EXAMINATIONS OF RESPIRATORY ORGANS.—The question, what is the influence of chronic nasal catarrh upon health, may not unfrequently appear in the foreground of a medical examiner's thoughts. Will the catarrh extend to the larynx and trachea and lungs? Will it produce ill health from impaired digestion? A chronic catarrh of the nose and pharynx is not very rare in those who are applicants for life insurance. It may be safely said that, among residents of the towns on the south shores of our northern lakes, and among residents of manufacturing towns, chronic catarrh of the nasal passages and pharynx is not an uncommon condition. It is generally considered to have no influence in shortening life, unless the case becomes very aggravated. The conditions spoken of are not at all those in which there is a syphilitic cause, but cases of simple catarrh. I have seen at least one case in which bronchial catarrh succeeded to severe chronic catarrh of the nose and pharynx. The passage of large quantities of mucus and mucopurulent secretion from the posterior nares down into the stomach, sometimes impairs the appetite and thus influences digestion. The medical examiner cannot, on these accounts, entirely ignore these conditions of catarrh. At the same time, a too rigorous exclusion of mild cases would lessen the proper business of a company and deny insurance to many fair risks. Cases of simple chronic catarrh are often more an excessive functioning of the mucous membrane than an inflammation, are due to irritation, and would disappear if the person were removed from an atmosphere containing coal soot, dust, and finely powdered manure of horses, blown about by the winds, and, so to speak, eaten as well as inhaled; or, such an irritation would disappear by removal from a location when due to irritating gases connected with the manufacture of various products, or when due to the moist and cold lake winds, with their great changes of temperature. A second condition of doubt arises sometimes, in connection with the respiratory organs, from some little roughness of breathing, which is due to the presence of that which we call a cold, accompanied with an acute catarrh of the nasal passages. The same influences which have produced this cold, perhaps the breathing of raw cold air, have had some effect upon the bronchial tubes of the apices of the lungs, the

swollen mucous membrane producing a shade of roughness of breathing, which causes the listener to fear commencing bronchitis, or to fear that he may be led into accepting a risk in a case of beginning tuberculosis. I have found some roughness of inspiratory and expiratory murmur, though rarely, in men who, like carpenters, have been working in the dust made by saws. Such a permanently acting cause would require repeated examinations to ascertain whether the condition was evanescent or permanent. The irritating conditions are similar to those which, in stone cutters and grinders, produce a chronic phthisis. While a man may be subjected in his business to frequent irritations of this kind, and yet never acquire pulmonary consumption, the writer feels sure that, where hereditary peculiarities of tissue and personal impairment of health act with such irritations, the garden is being prepared for the implantation of the bacillus tuberculosis, or for the commencement of a chronic inflammation. There is also liability to acute bronchitis or pneumonia.

3. Some Phenomena Connected With the Circulation of the Blood. There is, sometimes, a blowing sound produced by the subclavian and carotid arteries, heard when the walls of the chest are thin, and when the heart is urged to strong action for a little while, under the slight excitement of the beginning of an examination of the chest. This sound, which is not pathological, is heard at the beginning of the examination and disappears after it has progressed. It is due, I believe, to relaxed walls of the vessels, and to pressure by the vessel upon the neighboring tissue, which acts in the manner of a constriction, when the artery is quickly filled by strong action of the heart, producing a sound heard over the clavicle and above it; just as a murmur is heard when the stethoscope presses upon the carotid artery, and as a murmur is heard in the relaxed vessels of anemia.

Fainting in the process of an insurance examination.— Contrary to the above named stronger action of the heart, the mental state produced by an examination may result in weakened action of the heart. It is an occurrence within the experience of many medical examiners to have had strong and healthy persons, almost always men, suddenly faint under the process of an examination of the chest. I suppose an undefined feeling of apprehension

that some serious disease of the heart or lungs may be detected by the examiner, produces an emotional panic which weakens the heart's action. The action of the heart becomes feeble rather than frequent; the brain becomes anemic, and the man faints. This may occur more frequently in examining the chest when the person is in a standing position. In both the above phenomena there is not necessarily a departure from health.

It is curious to notice how emotional or reflex influences play upon the heart in these examinations. In one case, in which the applicant could not urinate in the presence of a second party, a sudden stoppage occurring even in a hotel urinal closet under such presence, the passage of a sound in the urethra was sufficient to bring the pulse down to fifteen beats per minute, with the occurrence of nausea and perspiration. There was no stricture. There appeared to be an imminent danger of complete inhibition of the heart's action.

4. The Place Where the Examination is Made.—The present condition of competition among life insurance agents in large cities, makes it necessary, in order to do business, that the medical examiner should often make his examination at the applicant's place of business, the counting house, the store, the factory. The inconveniences of the place itself, the absence of accommodations, the lack of privacy for question and answer, the obstacles to having the shirt and under-clothing removed in order to make the examination complete, the sounds of labor, the whirring of machinery, all render the examination liable to be defective. This is especially the case as to diseases of the chest. For the purpose of doing an active business, there is no doubt that as few hindrances as possible should be thrown in the way of the agent in procuring the medical examination. If life insurance had something like the boards of fire underwriters, which should make rules governing such matters, it might be possible to bring about that all examinations should be made in the quietude of the physician's office. But at present this is not the case.

The expert ear can detect a good deal, even amidst a confusion of sounds, but the most expert ear will not be able to detect the slighter shades of dullness in the apices of the lungs, or the crepitant rales of a catarrhal condition of the minute bronchioles in the beginning of tuberculosis,

in the midst of the above distractions, or when there are coverings to the chest, such as woolen pads, and stiffly laundried shirt fronts, with the slender advantage of a coat and vest pulled backward over the shoulders. I have known more than one case in which persons have placed thick padding on the chest, to try to prevent the examiner from recognizing the condition of the lungs. Such an intention to deceive is generally accompanied by the desire that the examination should be made at the place of business or work, where it will appear an ungracious act if the examiner requests the removal of clothing, or prolongs the examination. Where chest examinations have to be made while retaining upon the chest the thickness of the shirt and undershirt, I think more knowledge is to be gained by applying the naked ear to the chest, than by applying a stethoscope over these crackling moving garments. The head, pressed upon the chest, holds these better from motion, and allows the ear to obtain the sounds of the organs less disturbed by the sounds external to the body, which, when the stethoscope is used, will modify and overwhelm the sounds made by the lungs. The stethoscope, always at hand, must be applied to the naked skin, when any suspicion of abnormal sounds is raised. The ideal, and the safest, examination of the chest is made with the stethoscope applied to the naked skin; and the ideal insurance company will insist upon this method of examination.

5. Concerning Rejections of Applicants.—Strictness on the part of a company in carrying out rules as to causes for rejection, and carefulness of the medical examiner, act in a double way to benefit the company. The agent soon learns to avoid bringing to the medical examiner applicants in whom the causes for rejection are apparent. The carefulness of the medical examiner prevents improper applications from being brought to him for examination, and sifts those which are brought. Thus the more careful the company and its examiner, the fewer rejections of applicants there will be; for the applicants will be a select class before they are brought to the examiner. Lately, even beneficiary societies have directed an examination to be made of the urine, as well as of the lungs and heart, in the case of every application for membership. There is ground for a well founded opinion that those in-

surance companies which do not demand a complete examination of the urine in every case, are becoming the reservoirs of rejected applicants from the more careful companies, gathering in such as have been found to have albumen or sugar in the urine. This would be an appropriate punishment for neglect of modern methods of examination. The following detail of experience will show what pathological conditions may be found in such a select class of presumed healthy persons as has been mentioned above. Out of two hundred and sixty-six examinations for life insurance made consecutively, in every one of which there was included an examination of the urine for albumen and sugar, there were found the following cases of defective health: Three had asthmatic conditions; two had irritable bronchi with roughness of respiratory sounds; two had commencing acute bronchitis; one was declined on account of family history and hereditary tendencies alone; one had weak digestion and impaired nutrition; one had imperfect eye sight with other imperfections of age; three had albumen temporarily in the urine, which was due in one of the three probably to leucorrhea, and in two of the three to previous gonorrhea; two had permanent kidney albuminuria; one had oxalic acid crystals with clumps of leucocytes; one had sugar.

6. ALBUMEN IN URINE.—Of late it has been asserted that there may be albumen present as a physiological ingredient in the urine at certain times in the daily twenty-four hours, in the adult; also, that it may be physiologically present in the urine of boys and girls. For the insurance examiner, however, there is only one safe decision to follow, namely: that albumen in the urine is to be accounted abnormal in every applicant for life insurance. Dr. George Johnson, of London, England, in his little book, "On albumen and sugar testing," says: "I cannot too emphatically insist upon the fact that the smallest trace of albumen in the urine, whether with or without the appearance of renal tube casts, is always abnormal and pathological." My own experience is in accord with this statement. In two hundred and sixty-six cases of presumed healthy persons, there were found only two cases of permanent albuminuria. I have an applicant in mind in whose case there was temporary albuminuria from the presence of a carbuncle on the wrist; others, of temporary

albumen from the remains of gonorrhea and leucorrhea. We know that temporary albuminuria occurs in pyrexial diseases. But these cases only make more sure the conclusion, that an insurance examiner must discard any case in which there is permanent albuminuria, or recurring albuminuria which is not due to temporary causes. Very rarely indeed do even peptones show their presence by the rose red color with Fehling's solution. This experience in testing for albumen in the urine of adults does not bear out the idea of a physiological albuminuria.

Albumen in urine in workers in lead.—In January, 1885, there came before me one case of a painter, using lead, who considered himself entirely healthy, but who had well marked albuminuria. There were no casts of kidney tubules. A similar case was observed by a colleague in December, 1884. In these there was no blue line upon the gums nor other symptoms of the influence of lead.

I have observed, a number of times, specimens of urine which were sometimes clouded when passed, and which gave a reaction like albumen. Even if filtered through animal charcoal, this suspicious reaction was obtained. It was not removed by heat, acids, or alkalies. It was not a reaction due to the presence of urates or phosphates. It appeared to be due to the presence of micro-organisms.

Several good and easily applied tests for albumen are in use. A ready, simple, and good one is nitric acid, a half inch of pure nitric acid being placed in the bottom of a test tube, and the urine gently dropped or allowed to trickle down the sides of the test tube upon it until an inch or more of the urine rests above the acid. Picric acid is another favorite. Solution of sulphate of sodium, heat, readily confirm the test. It is hardly necessary to specify other well-known reagents.

7. The Presence of Sugar in the Urine.—There have been published accounts of cases of sugar in the urine which appears there physiologically. Probably physiological temporary saccharine diabetes is more common than a physiological albuminuria, if the latter occurs at all. In the last five years I have observed three cases in which the persons who had saccharine diabetes appeared to be in good health. One of these was a case in which sugar was

present for a month. This disappeared by removal of the gentleman from undue mental strain in business. In examinations made during a year, and after a year had passed, there was not found any further presence of sugar. So far as known there was no change of diet in this case, nor was the person subject to medical treatment. In the second case, the person had the appearance of perfect health five years ago, when the presence of sugar was first discovered in the process of insurance examination, and he still has the same appearance, and subjective experiences of full health, physical and mental. Each year for five years I have examined the urinary secretion in this case, and have always found an abundance of sugar. On the twenty-fourth of April, of this year, I again made the examination, but found no sugar in the secretion of the whole twenty-four hours. His physician made an examination a week previous to mine and found no sugar; but about a week before that he had found an abundance, namely eight per cent. In this case a control of the diet causes the sugar to disappear. The amount of secretion in twenty-four hours has not, upon the occasion of any of my examinations, varied much from fifteen hundred cubic centimetres, the physiological average. His physician tells me that the administration of bromide of arsenic causes a noticeable diminution of sugar. In June, 1882, there was found, upon analysis with Pavy's solution, two and one-half per cent of sugar; in 1883, also in June, the amount was three-tenths of one per cent. The amount of sugar therefore varies from none at all to eight per cent. In this case, during all these years, this gentleman has been, so far as appearance and feelings are concerned, in perfect health, actively engaged in extensive business, and enlisted in projects of large benevolence. In a third case in which sugar was discovered in the process of an insurance examination, the person, although in good health, has always had a slight discharge from a wound received in battle, twenty years ago. This gentleman does not undergo any medical treatment nor dietetic management. It is now two years since his first examination. In examining a specimen of his urine in May, 1885, I found about six tenths of one per cent of sugar. The amount of urine passed in the twenty-four hours was not above the physiological average. It would be interesting to follow these

cases, and to observe what kind of risks they would have been for a company which had taken them.

Reliance upon tests.—Fehling's solution, the constituents put up in two bottles, or arranged in tablets so that the solution may be made fresh, furnishes a convenient test. The bismuth test, the picric acid test, and fermentation, serve to confirm a suspicion of the presence of sugar or to dissipate it. Confirmatory tests should always be made. The presence of uric acid, and, as mentioned by a reviewer in a late number of the *American Journal of the Medical Sciences*, the presence of creatine and creatinine, will cause a similar reaction to that of sugar with Fehling's test and with picric acid. Unless more than one test is employed there is therefore danger that the presence of such ingredients may cause a mistake to be made. It is a question, as said by the above reviewer, whether that which is supposed to indicate the presence of a small amount of sugar in physiological conditions, is not, after all, due to the presence of creatine or creatinine, or uric acid.

VOICE IN SINGERS.

BY CARL H. VON KLEIN, A. M., M. D., DAYTON, O.

Voice; beautiful voice! What is more precious than a delightful voice? It has charmed kings and queens, princes and princesses, poets and peasants; it has been cultivated by thousands in every country, and in every century.

Vocal music has its origin from the beginning of mankind; its monuments of ancient and modern times cannot be numbered; it speaks clearly to the initiated in a language understood by all civilized nations.

But why does Italy produce such grand voices? Not only among her native people, but even among those from other countries who reside there to cultivate the voice. This success has been a mystery for ages. In the language of Gambetta: *"Italy, beautiful Italy, where every man's voice is the voice of a mocking-bird, two-thirds of its inhabitants can neither read or write," yet her success becomes greater every year. She has grown up amid the illumination of Grecian knowledge and in the gloom of Roman ignorance.

The art of combining sounds agreeable to the ear has become a profound science, founded upon the cultivation of the vocal organs, which is the fundamental principle of a singer's success. Vocal sounds are produced, according to Cruveilhier, Helmholtz, Mandl, and Carpenter, by the vibration of air emitted from the lungs, passing through the rima glottidis, which is developed in the trachea and larynx, and clears itself in the mouth. The organs of voice include the lungs, bronchi, trachea, larynx, mouth and nose. The most essential parts are the two vocal chords; its boundaries on either side are formed posteriorly by the movable arytenoid cartilages.

*From the appeal of Gambetta to the Jesuits, pointing that Italy has not prospered in education under their discipline.

The interior extremities of the vocal cords are fixed in position, and though separated, they approximate each other, according to the movement effected by the thyro-artenoid muscles, arising from the lower part of the posterior surface of the thyroid cartilage, and are inserted into the outer part of the base of the arytenoid cartilage. They draw the arytenoid cartilage to the thyroid, as they relax the ligaments of the larynx.

The air driven by the muscles of expiration from the lungs through the trachea, strikes against the two vocal ligaments. The principal organs of the voice are the glottis and the tongue, assisted by the pharynx and larynx, the nose, teeth and lips. The glottis opens in an elliptical triangular shape, forming a small oblong aperture, which can be dilated or contracted at pleasure at the vibratory motions, to which the tones of the voice are desired.

The tongue, composed of muscular tissue, is an active organ of articulation, and together with the lower jaw, has a power of lowering or elevating the proper note. The pharynx is a muscular cavity of voice production, which creates a certain guttural sound. It is situated directly by the vocal cords, and extends to the posterior entrance of the nasal channels. The larynx is principally concerned in the formation of the voice; it dilates and contracts by elastic fibres, which unite the five annular cartilages, capable of producing the various tones of voice. The two nasal cavities open posteriorly into the throat; each of "three channels running horizontally from before backward to the upper part of the pharynx," assists to expel the air which is forced out from the larynx, trachea, bronchi, etc.

The teeth take a positive part, acting as a kind of fulcrum for the tongue and lips.

There are certain sounds, which can only be produced by pressing the tongue against the rear of the upper front teeth, and by the lower lip pressing against the upper teeth, in order to close the vocal tube. Those sounds are termed labials and dentals; the former used in uttering the letters D, T; the latter in B, F, M, P, V.

The lips forming the vocal tube, together with the tongue and teeth, enable the singer to utter the scale of do, re, mi, fa, sol, la, si.

The human voice is distinguished by male from female; the latter representing almost twice as many vibrations per second as that of man. There are six species of the human voice.

Those for male are, bass, baritone and tenor: those for women are, contralto, mezzo-soprano and soprano, or treble voices.

There are three striking qualities in vocal tones; the pitch or gravity, the force or effectiveness and timbre, which vary in different persons, according to the position and tension of the vocal cords and the width of the rima glottidis. The production and modifications of the voice depend mainly upon the size and shape and various complications of the laryngeal sacculi, of the pharynx, of the tongue, and of the mouth, nose and lips.

The superior organization and mobility of the tongue and lips enable men to modify their vocal sounds, so as to render them articulate and adapted to express the ideas, which it is their peculiar privilege to create. The loudness of the voice, which includes volume, arises from the power of muscular contraction of the chest, by a forcible explosion of air through the larynx.

The elasticity and perfection of the voice, are produced by voluntary contraction of the laryngeal muscles, which move the arytenoid cartilages upon their articulations, and thus increase or diminish the width of the rima glottidis, and the tension of the vocal cords.

If all men were perfect, all men would be singers.

It is said, even all singers are more or less afflicted with tonsillitis, or elongation of the uvula.

It is a known fact, that the operation of tonsillotomy, or uvulotomy, "has been undergone by all singers, from Patti downwards."

The Italians appear to have natural organs of voice for music.

I have made ninety-two* examinations of the throats of Italians (thirteen were professional singers). I found the throat very roomy, the tonsils almost level with the fauces, the uvula extended only one-eight of an inch from the soft palate, the posterior nares very large, the larynx

*This observation I made under the kindness and auspices of the late Dr. Bordini, of Rome.

thickly lined with a smooth mucous membrane, the trachea enormous.

Another peculiarity in the Italians I found to be, that it is very seldom necessary to use a tongue depressor; they seem to place their tongue down to the mylo-hyoid muscles, forming it into a concave †shape.

This accomplishment is necessary for a singer, and can be effected only by long and tedious training. Most all nations appear to have cultivated their voice in music, without regard to the timbre.

Our first acquaintance with the origin of vocal music is when Laban reproached Jacob thus,‡ "Wherefore dids't thou flee away secretly, and steal away from me and dids't not tell me, that I might have sent thee away with mirth and with songs."

The Jewish nation at a very early period constantly administered religious ceremonies with vocal music. The psalms of David, and the songs of Solomon, were executed with vocal music.

The Levites were instructed by the priests to sing war songs, which were useful in the field of battle, and by them victory was gained.

The Egyptians, says Strabo, taught their youth by physicians, who were also priests, songs which were established by law.

The mythology of Greece shows the ancient history of vocal music. The term music is derived from Muses. The Muses were nothing more than a band of singers in the service of Osiris.

Roman music was cultivated by Servius Tullius, 600 years before Christ. The Romans were accustomed to the best singing that the age afforded. Even Augustus, who did not esteem singing, yet though advanced in years, engaged a physician to regulate his voice.

Even the Chinese, with the voice of a crow, cultivated vocal music, from the time of Yao and Chun, whose chronology carries us back twenty-three centuries before Christ.

Among modern nations, the cultivation of the voice has become one of the greatest arts.

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†Ditch like.

‡Gen. XXXI, 27.

France established schools of music in the tenth century. She has not only spread her culture within her own borders, but she has extended it to Belgium, in the French and Flemish languages, and produced magnificant voices.

Germany has also produced masters in vocal melody.

Hungarians, who left Asia about the ninth century and settled in Europe, brought with them a vocal music peculiar to their nation. They were so fond of it, that Bella the III, in 1192, sent an envoy to Paris to be instructed in melody.

In England, during the reign of Elizabeth, the talent of voice had been so cultivated, that it has been surpassed in no country.

The Swedes have always been recognized as a music-loving people. Their national songs, (Volksleider) were faithfully transmitted by ear, from generation to generation. They now receive the most artistic treatment.

The Danes are a people full of romantic feeling and possessing a great gift of melody.

The Norwegians excel no less than the other Scandinavian nations.

The Russians are a nation full of music, from the cradle to the grave. Songs are the constant companion of Russian life; a people who prey upon vocal talent, the seat of fame for all great singers.

The Poles are excitable, and a nation keenly susceptible to song. There is a rare beauty in Polish songs. It is astonishing with what wonderful skill they embellish their songs.

The Bohemians, with their patriotic songs, have astonished the world. They are full of love and affection. They are sorrowful, mournful, and joyful.

Spaniards, the inventors of navigation, have taught the mariners of the world to sing at their masts, beautiful songs, in the hour of jeopardy.

The Portuguese, though their songs are of Spanish origin, nevertheless possess a great quantity of genuine popular songs. They have within them a marked trace of Oriental influence, but with a faithful adherence to their national characteristic in melody, harmony, and rhythm.

We now come to Italy, the nation of natural singers. Though they have not produced the best vocal talent, still their accomplishments are a wonder to all thinking nations.

Many theories have been advanced, but none that can satisfy us to be true. Those theories advanced, are all attributed to the climatic influence of that country. Let us then review, and examine the climatic influence on voice.

We are certain that mere latitude can not determine the climate. It should be borne in mind that Paris lies 2° farther North than Quebec, still she enjoys a milder climate. Naples lies 1° farther North than the capital city of Ohio, yet the mean temperature of Naples during the year is 59.6°, Winter 47.6°, Summer 73.1° Fahrenheit. The lowest temperature ever known in Italy is 2° below zero, while in Ohio, to my own knowledge, the mercury fell to 20° below zero. The air of Italy is very different, according to the different situation of the countries it contains. In those on the N. E. side of the Apennines it is more temperate, but on the S. W. it is very warm.

Campagno di Roma and the Farrarese are unwholesome, from the lands not being duly cultivated, nor the marshes drained, but the other parts are generally pure, dry and healthy.

It is true that the hygienic preservation of the voice depends mainly on the climatic influence of the atmosphere; but it is not to prime development, as the atmosphere in different parts of the earth varies almost at every season, in temperature, humidity, density, movement; and also the foreign element that may pervade it.

Meliot asserts that climate exerts a peculiar influence over voice. "He states that in hot countries there are finer voices than in cold regions."

I do not understand why a warmer country should be more favorable to the prime development of the vocal organs, as the animal body has within itself a power of adaptation to almost any atmospheric condition. Furthermore, a cold, dry atmosphere, renders the function of the lungs more active, consequently the atmosphere creates little tendency to parch the air passages, because it is counterbalanced by the cold which checks the evaporation. Therefore, a cold, dry climate is favorable to vocal organs.

If a warm climate is superexcellent to the development of voice, why is it that the birds which possess the most diversified and complicated organs of voice, such as the nightingale, mocking-bird, lark, etc., are generally found

in cold climates, while on the contrary, the birds of a gross voice inhabit the warm climates? The nightingale inhabits all Europe, even Sweden and Russia, which are cold northern latitudes; still she is the sweetest of song birds. The mockingbird has a home in North America, which is not warm, still she has the faculty of imitating the notes of other birds to such a perfection that she can repeat them with great sweetness and accuracy. The lark inhabits north and north-eastern Europe, from northern England to the northern border of Russia, the coldest part of Europe. Yet she is the most remarkable bird and is universally admired for the power and melody of her songs. She sings beautifully as she soars in the air. The parrot, with her rough and coarse voice, inhabits the hottest climates of the earth. The crow, a coarse noisy bird, always has her home in a country of mild temperature. There are many who claim that mountain air, or that of elevated plateaus, has great influence on the vocal organs; if so, why do not the Swiss of Europe, the inhabitants of the Alleghanies and Rocky Mountains, excel in song?

It is also claimed that Italy produces superior voices, on account of the sea breeze that passes over the country, from the lakes and gulfs surrounding Italy. If there is anything in sea breeze, our Atlantic, Pacific and Gulf States would produce the greatest singers; if a foggy atmosphere would influence the voice, London would be a city of singers. One of the greatest follies is the theory advanced that "the air of Italy is impregnated with iodine, bromine, and various saline principles," which is the cause of the vocal improvement.

Dr. Moffat, of Glasgow, lately claimed* that he had discovered the "voice-making" of Italy. He says that he lately made analyses of "several specimens of the Italian air" and "found" that the air contained "peroxide of hydrogen and free ammonia;" he also "claims" an "invention" of an instrument that he terms "ammoniaphone," which, he claims, will supply all deficiencies in voice culture. Anyone who will use "one of those instruments will not be obliged to pursue a long course of study," if he "daily" takes "a few inhalations." This will "entirely metamorphose the anatomy of the respiratory organs,

*New England Med. Monthly, April 15, 1885, page 323.

changing the most uncultivated and unmusical voice into one of surprising sweetness and melody."

Discoveries of this nature are simply absurd. I despise such delusion and deceit. I hate whatever is ridiculous, mysterious, secret and false.

The greatest singers of the world are not Italians, nor do they come from Southern Europe. Parepa Rosa came from old Scotland; Jenny Lind, Mad. Tariania Ostova, and Christine Nilsson, came from cold Sweden; Adalaide Phillips and Elizabeth Billington from England; Mad. Rudersdorf from Russia; Mad. Teresa from Hungary; Henriette Sontag and Paulina Lucca from Germany; Lablache and Sophia Arnold from France; Mad. Persiani, Louise Kellogg, Emma Abbott and Miss Cary are natives of the land of the free.

The singer of singers, Adalaide Patti, and her sister Caroline Patti, although born in Spain, were brought to this country when babes; their first appearance was upon an American stage, at the age of nine years. In fact, the whole family of Patti, who are world renowned singers, were either born upon American soil, or came here under the age of five years.

It is true that almost all of those mentioned cultivated their voice in Italy, but we cannot attribute their success to Italian atmosphere. Even if ammonia is found in Italian air, it would not assure a tendency to improve the voice; or if evaporation or inhalation of ammonia would have influence on the voice, all camel drivers, cow-boys and hostlers would be great singers.

Some, as already remarked, have attributed the voice-making of Italy to iodine in the air; if this be true, why are not the sailor and the fisherman, constantly inhaling marine vapor, great singers?

A few days ago a professor of music, who received a part of his education in Italy, said to me that he attributes the culture of music to the Italian language. Why are not the Gypsies great singers who have the sweetest tone in their dialect?

Once more, what is it in Italy that influences the production of great voices, not only of the natives, but of the foreigners who go there for that purpose?

It is the tyrannical discipline that the schools of Italy possess, the peculiar mode of training and teaching. It

must be remembered that those who go to Italy, have already made great progress in the art. They simply go there to refine it.

The natives of that country, as a rule, confine themselves to music; almost two-thirds of its inhabitants make a livelihood either by instrumental or vocal music, from the grind-organ to the voice.

We must also consider the modification of the natural anatomical development of the lungs, trachea and larynx, the scope of the throat, the tongue, etc., which is peculiar to their race. Those organs are just as natural to the Italian, as the Oriental physiognomy to the semitic race.

We have now represented the voice of Italy anatomically, physiologically, climatically, and gymnastically, but if we would consider the voices of nations, and of the whole human race, we would find that America has produced the greatest voices upon the face of the earth. The natural melody and sweetness in the tone of American women has charmed the world, which adds to the enjoyment and fame of the American people.

A RARE COMPLICATION AFTER OVARIOTOMY.

BY C. D. PALMER, M.D., CINCINNATI, OHIO.

Successful results in ovariotomy have become so common, in fact, the operation properly performed and the after treatment carefully conducted, are attended with such high rates of recovery, even under desperate circumstances, that the details of the ordinary run of cases possess comparatively but little interest. But, every now and then, cases of ovarian tumors are encountered, which present extraordinary, rare, exceptional or unheard-of complications, either in diagnosis, the operation itself, or the after treatment. Such experiences, for the guidance of the surgeon, and the perfection of the literature of this wonderful growing subject, should not only be mentioned but recorded.

It is with this object in view that I beg to present the following case :

Miss ——, of German descent, a blonde, naturally of delicate organization, some three and a half years since, at the age of 19, commenced to notice an abdominal enlargement. This was not unilateral, but central, regular and uniform. When it had reached nearly to the size of full utero-gestation, she consulted one physician, who, after conference with another, pronounced the case one of abdominal dropsy from Bright's disease of the kidneys, and tapped her. The abdomen completely collapsed. It quickly refilling, she subsequently went to one of the hospitals in Cincinnati, and was again tapped with the same result. Leaving the hospital, she consulted another physician, who, finding the urine albuminous with the presence of dark granular casts, also the urine scant, as small as fifteen ounces daily—a quantity increased by the use of diuretics—also regarded the case as ascitic and tapped her for the third time. These tappings were repeated again and again, at each operation some one and a half bucketfuls of fluid

being withdrawn. These tappings, eight in all, were made between June 3d, 1883, and October 30th, 1884, a period of about seventeen months.

The character of the fluid withdrawn, as represented by some of her attendants, was variable both in color and consistency, at no time being especially thick. Her last attendant, up to this time, Dr. John Keller, suspecting that the true condition might not be ascitic but ovarian, requested me to see the case with him. This was on December 20th, 1884, about eight weeks after the last tapping.

I found the abdomen immensely distended, so much so that dullness extended high up into the epigastric region when the patient was sitting. Fluctuation over the abdomen was very distinct, superficial, universal, and nearly uniform.

In the dorsal decubitus there was dullness extending backwardly to an extent and degree seldom heard when an ovarian cyst is present. On the assumption of the lateral decubitus, a slight change in the area of this dullness was noticeable. No fluctuation could be felt in the posterior vaginal cul-de-sac.

The patient was extremely anemic and feeble. The heart's action was feeble and frequent (120 to 130 per minute), and a slight febrile movement was recorded each evening. Menstruation had disappeared some six months before. The lower extremities were much swollen and edematous, but there was no albumen in the urine.

Diagnosis—Ovarian cyst of the unilocular variety. In view, however, of the former diagnoses, and the fact that there were some obscure points in the history and in the present physical signs, an exploratory incision, to admit the index finger, was made prior to operative interference, confirming the diagnosis.

The operation was undertaken under the most adverse circumstances. The general condition was the most unpromising for ovariotomy of any patient upon whom it has been my opportunity either to operate or see operated. It was made in a room in which the young woman with her mother lived—the only room they had. It was clean, but in a tenement house. It was the best we could do at the time. On December 28, 1884, assisted by Drs. Keller, Ransohoff, Zinke and Krouse, the abdomen was opened

between the umbilicus and near to the symphysis pubis. The cyst wall was closely and in all directions adherent to the abdominal parietes. When these adhesions were broken up over an area as far as could be reached by the fingers, a large amount of clear fluid began to flow through the abdominal opening. For the moment this fluid was taken to be ascitic, and the patient was about to be turned upon her side to aid in its evacuation, when the true source from which it came was detected, by the two long fingers readily entering the interior of the cyst. This opening was directly opposite to a cicatrix in the abdominal wall, and had been made by the repeated tappings, the last few times with a large-sized (⅜ inch in diameter) trocar. Through it, some cystic fluid doubtless had flowed into the peritoneal cavity after some of these tappings, but subsequently its edges had become agglutinated by peritoneal adhesions to the abdominal walls. Two smaller openings, superior to this one, were also found. As soon as observed, the smaller openings were clamped with hemostatic forceps; the largest plugged with the largest sized ovariotomy trocar, through which the cyst was drained—a procedure mostly accomplished before a detachment of the cyst from its surroundings was attempted. The adhesions were short, thick, firm, numerous, and universal, over the whole anterior and lateral abdominal walls, omentum, lower border of the stomach, and, to a limited extent, to the colon. They were broken up by steady traction on the cyst, while dissection was carried on with the handle of the scalpel.

The pedicle, attached to the right ovary, of fair length, medium size, was treated by transfixion with very strong, yet soft, silk (carbolized), each section tied separately, and the whole stump tied by an additional wrapping. It was then cut off about one inch from the seat of ligation, after which a wedge-shaped section was cut out of the free end, the peritoneal edges sewed together by a continuous stitch of catgut—a method of dealing with the pedicle which I have practiced in my last five ovariotomies, all of which have been successful, and a method which, it seems to me, possesses special advantages, both against the possibility of secondary hemorrhage, and, at the same time, one which diminishes the chances for septic absorption.

Hemorrhage (oozing) from the severed peritoneal adhesions was controlled by hot water sponging, and the

application of the thermo-cautery at red heat. The peritoneal cavity was cleansed of all blood, ascitic and cystic fluids, by means of fresh, very soft, carbolized sponges, wrung out of hot water, and the abdominal cavity closed with silk sutures, without any drainage tube.

Frequent hypodermatic injections of brandy were maintained during the operation, and, at its conclusion, morphia sulphate (gr. 1/6) was administered in a similar manner. The operation commenced with the patient in a forlorn condition, was ended with the prospects no brighter. But she improved rather than otherwise during the day, and the improvement was manifest on the next day, when the pulse descended to 120, and temperature to 101° F—one degree less than at the hour of operating. For fear of exciting vomiting, all nourishment and stimulation were administered per rectum for the first week. A low form of general peritonitis, attended with much tympanites, dyspnea, a pulse of 140, and a temperature ranging from 103°–104° F., commenced on the third day, and continued for one week. On the eighth day following the operation, the condition of the patient became critical, a fatal result imminent, apparently from septic poisoning. We decided to open the abdomen. By removing two of the stitches and introducing a rubber tube, some eight to ten ounces of the most fetid serum and exudation material were evacuated. The peritoneal cavity was then washed out with weak carbolized warm water, until the stream of fluid became clear and free from odor. The effect was most decided for the better. The temperature fell 3° within two hours, and all the other bad symptoms correspondingly improved. Those washings were repeated morning and evening for three days, when they seemed no longer needed—the abdomen becoming soft, flat, free from tenderness, the temperature nearly normal, and the pulse rate 108–110. Convalescence seemed well established, and recovery in due time reasonably certain, when surprise was awakened by the development of a new complication. On the twelfth day, the second after the discontinuance of the intra-peritoneal injections, a smell of fetid gas with fecal odor, was noticeable at the opening made into the abdominal cavity. The next morning a small particle of fecal matter was seen and removed. A fecal fistula had formed, communicating inwardly, seemingly, from the character of

the discharges, with the lower smaller intestine, while the external opening presented in the median line, midway between the umbilicus and symphysis pubis. It discharged at first daily several ounces of liquid fecal matter, and has continued to discharge most of the time since, in quantities gradually diminishing and less offensive—the present quantity daily probably not exceeding on an average two to three teaspoonfuls.

The patient has slowly though gradually improved in strength and flesh, menstruation has returned—a convalescence which was much impeded by an old stubborn diarrhea and an attack of bronchial catarrh. In fact, it was feared for a time that a state of phthisis was developing, but this has been averted, and for two months recovery has been complete save the fecal fistula.

What the final outcome of this complication will be, time can only solve. It is not improbable that within a number of months complete closure may be spontaneously effected, for such a result is not unfrequently accomplished in fecal fistulæ arising under various circumstances and conditions. No treatment for the complication has been carried on beyond the regulation of the diet, and the application of a firm compress, secured by an abdominal bandage. Should closure not be effected in due time, it might be advisable to have recourse to surgical interference.

It is to the occurrence of this fecal fistula after ovariotomy—a complication both important and rare, that interest is attached. To my mind, it is still somewhat a matter of conjecture both as to when and how the accident occurred.

1. Although ovarian cystic tumors, by perforation of their, and the intestinal or stomach walls, discharge themselves into the cavities of the last named organs, there is no evidence that such was the condition of affairs in this case.

2. Nor was there the least suspicion on the part of myself or any of those who witnessed the operation that the intestine was injured at that time. These organs rested in their usual position when ovarian tumors are present, were empty, and, on account of the great amount of abdominal distension, compressed into the smallest space.

3. That as the appearance of the fecal fistula was not manifest until the twelfth day after the ovariotomy, and some four days after the abdominal cavity had been opened for the drainage of septic material, and one day after the discontinuance of the intra-peritoneal injections, the most reasonable and plausible explanation would seem to be that the intestinal perforation resulted from softening from the peritonitis, taking place from without inwardly. If such were the facts, it is certainly fortunate that the peritoneal cavity was opened when it was, (*a*) to drain off a septic fluid which, remaining, undoubtedly would have led to a speedily fatal termination, and (*b*) to afford an exit for the fecal matter within the peritoneal cavity through the artificial opening in the abdominal wall.

I have been much interested in finding, so far as I have had the opportunity and time, other instances of fecal fistulæ of similar character.

As already remarked, there are by no means a few cases in which ovarian cysts have emptied themselves by traumatism or morbid processes into the surrounding cavities. Except from traumatism, these openings are rarely into the peritoneal cavity, for, occurring usually at a part of the cyst where inflammation of the peritoneum is most intense, that portion becomes adherent, and the discharge of fluid takes place into any part of the alimentary canal, or the bladder, vagina, Fallopian tube, or externally.

While cystic fluids thus enter the intestinal canal, so intestinal gases may enter the cyst cavity, producing a condition simulating ascites in its physical aspects.

Examples of all these avenues of the escape of ovarian cystic fluid have been reported by Baker Brown in his work on ovarian dropsy.

But instances of fecal fistula after ovariotomy, judging by the sparseness of cases reported, are unquestionably rare.

Milner Moore (*Lancet*, p. 329; p. 1, 1880) reported a case of pelvic abscess which formed and discharged into the rectum, the eighteenth day after an ovariotomy. Recovery.

Bantock (*Lancet* p. 207; p. 1, 1879) reported a case with symptoms of pain and collapse, ending fatally, the eighth day after ovariotomy. A post-mortem showed the

peritoneal cavity to be full of fecal matter from intestinal perforation.

I find no mention of any case by Atlee, Peaslee, Simpson, Barnes, Thomas, Emmet, Goodell or Tait.

Spencer Wells says that long after a recovery, more or less complete, following ovariotomy, some obstruction of the intestine sometimes results in the formation of a fecal fistula. He then refers to three cases: One of Dr. Lyons, of Glasgow; one of Thomas Keith, and one of his own.

In the case of Dr. Lyons (1866), there was an easy operation, but the abdominal wound did not close and the intestine adhered to the lower part of the abdominal wall. Pin-like perforations took place, with an issue of fecal gas and matter. Two years afterwards the intestinal perforation remained unchanged.

In Keith's case (1865), a pelvic abscess, opening above Poupart's ligament, formed two months after the operation. It closed in one month, opened again in three to four months, again closed in two months.

Spencer Well's case (1864), the only one in his one thousand reported ovariotomies, followed an operation on a large multilocular tumor, in which the pedicle was transfixed and tied, dropped with the ligature, but a second ligature was left hanging out of the abdominal opening. Five weeks after, there was a discharge of pus and feculent matter, and three weeks more the ligature came away when the fistula closed. Recovery seemed permanent. But one year subsequently, the abscess re-opened, and she died in two years after the operation.

Mr. Bryant has reported (Guys Hospital Reports, 3rd series, vol. xiv. p. 228) an interesting case of fecal fistula which formed at the lower end of the abdominal wound after an ovariotomy. The pedicle was secured in two parts by a strong whip-cord ligature and dropped. There was a free discharge of feces for four days, the fistula closed for seven days, and then opened again and discharged, besides feces, the double loop of ligature. In three days more the wound had healed, and in three weeks more the patient was well.

These and other cases influenced Spencer Wells to make use of the extra-peritoneal method of dealing with the pedicle, not only, as he thought, more successful in

the immediate results of the operation, but still more so if we look to the subsequent health of patients; the intra-peritoneal method favoring chronic suppuration, hematocle, and fecal fistula with a slow recovery. This verdict in reference to the two methods, intra and extra-peritoneal, the great ovariotomist has now reversed, for, in the last four years or more, with antiseptic precautions, the intra-peritoneal method has been his practice, we all know with what results.

Reference to other cases, one by Ponchin and Kufferath (*Belgium Md. Press*, 1880, xxxi. p. 217), of intestinal fistula after ovariotomy, with death; the other by Kusmin (*Centralblatt of Chirurg.*, 1879, p. 630), with recovery, may be obtained.

It is rather remarkable that perforations of some portion of the intestines during the later developments of ovarian tumors, and, more particularly, after ovariotomy, in view of the conditions often found at the time and following, do not occur more frequently. The same is true in reference to lacerations of some part of the intestinal tube in the operation itself. The tumor is quite often—less often than to the abdominal parietes and omentum—adherent to these parts, and the greatest patience, care and skill are needed to safely make the separation. But for the presence of hemorrhage, a small laceration may not be suspected. The case of Bantock, referred to, is a sample.

Barnes mentions a case (*Lancet* 1877, p. 2, p. 312), in which a two inch laceration was accidentally made, detected on account of the hemorrhage, sutured, the patient recovering—an accident which, if not quickly fatal, would be almost necessarily so, sooner or later.

Considering then these facts, is it not probable that intestinal lacerations during, and intestinal perforations after, ovariotomy, are accidents more common than is supposed, creating fatal peritonitis or collapse, the real cause of either escaping detection?

NOTE.—I wish to return my thanks to Dr. Jno. Keller for his faithful and skillful execution of the details of management of this troublesome case. C. D. P.

DISCUSSION.

DR. DUNLAP: I have had two cases in which the contents of the bowels discharged through the wound in the walls of the abdomen after the operation of ovariotomy. One was a case where both ovaries were diseased. I removed a large cyst. The left had been so flattened out over the surface of the pelvic cavity that I feared I could not take it out, and so let it remain. The patient apparently recovered from the operation and went on well for about eight or ten days and then there appeared to be active inflammation in the pelvic cavity, and a large amount of slough came out of the lower end of the wound. At the end of the third week fecal matter began to be discharged through that, and the patient made a perfect recovery. The discharge entirely ceased. The wound closed up and the woman lived three or four years after that, and finally died with what they call colic.

The other case was a patient down in the southern part of the State. She was very much distended. I found that she was exceedingly frightened about an operation—would not give her consent. The abdomen was exceedingly distended, and in order to get her consent to the operation I told her that I would tap her but that the sac would refill, and then she could decide whether she would agree to a more radical cure. I did tap her, and in about six weeks after the tapping she sent for me to perform the operation. She was fully prepared to have the operation made.

After opening the abdominal cavity I found the front wall of the cyst free from adhesions. I opened the sac and emptied its contents, but when I attempted to lift it from its bed I found it firmly adhered in a mass with the intestines in its posterior wall from the active inflammation caused by the tapping. I decided then, after careful examination, to close the sac and let it remain. I made a large incision, about three-fourths of an inch long, and drew the opening of the sac into the wound of the walls of the abdomen and fastened it there by passing a suture through the cut edges of the walls and sac. This held the sac in place readily, and the patient recovered from the operation and did well for about three weeks, when I got word that she had suddenly swelled up, and while I was reading the letter I got a telegram to come in haste. The wound in

the wall of the abdomen had held, but it was tender, and when the sac re-filled it gave way. The adhesions had taken place when the sac was collapsed, and when it re-filled it put the bowels on the stretch and ulceration had been set up in the wall of the intestine which was nearly through at the time of operation. The ulceration went on and finally opened, letting the contents of the bowels into the cyst, which rapidly filled and burst. When I got there I felt about as bad as a doctor could well feel. I said, however, this is doing just what I wanted it to do. The contents of this sac coming through will do the same thing as the injection of iodine. After the sac has contracted down to a small tube I will try to find the point where this ulcer is, and cauterize and get it closed up. I went home feeling badly enough about it. But I heard that it was all going along right. The sac was getting smaller and smaller, and in two months it was entirely closed. It has been thirty years ago. I think the Doctor's case will close up as my two cases closed.

DR. MILLER, of Cleveland: I agree with Dr. Dunlap, who thinks Dr. Palmer's case will come out all right. I had a very interesting case operated on two years ago, which opened up on the fourteenth day and formed a fistulous opening with the bowel. There was a double opening, or two fistulæ, leading into separate portions of the bowels, the one passing directly into the lower portion of the descending colon, the other into the small intestines. Water thrown into the rectum would pass directly out of the abdominal wound through the lower fistula, while ingesta constantly passed through the upper fistula and out of the upper portion of the abdominal wound. These fistulæ remained open for three months, but finally closed, and the lady made a good recovery.

I wish to further state that although the lady had a close call, and was reduced to a mere skeleton, and notwithstanding I have both her ovaries and fallopian tubes in my office, she began to menstruate about eight months after the operation, and has menstruated regularly ever since.

DR. PALMER: When the case first came under my observation, I looked upon it as almost unique, from the

fact that a hasty review of the literature revealed no similar complication. Upon further search, however, I have found the cases referred to in the paper, and have no doubt that still further investigation would reveal many more, some of which have never been placed on record.

I agree with the last speaker in the belief that the fistula will close, probably within the year; but suppose it does not, what then? Would it be prudent to resort to operative interference to close it? This may seem like an easy operation, but in view of the amount of vascular adhesions thrown out around the fistulous tract to protect the peritoneal cavity, which adhesions must all be broken up; and then that the gut must be exsected in its wall, sewed up and dropped, the operation is neither so easy of accomplishment nor safe. Still, it is the proper and best thing to do in these cases, if the drainage through the opening is continuous and exhausting, or is jeopardizing the health of the patient.

SPINAL IRRITATION AS AN ORTHOPEDIC FACTOR,

WITH REMARKS ON ITS TREATMENT.

BY GEORGE W. RYAN. M. D., CINCINNATI.

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The purpose of this paper is to illustrate the influence of Spinal Irritation as a factor in the cases which especially fall under the care of the orthopedic surgeon, and to offer a few remarks concerning the treatment of this affection. The term "Spinal Irritation," though vague, is perhaps the most expressive one we have, and is comprehensive enough to cover the pathology of this condition, whatever that may be. Its influence in the causation of joint troubles and deformities has been long known, and has more recently been shown by Gibney and Shaffer among American writers. It is found in both sexes and at any age from infancy to middle life, but seldom in the male after the age of puberty. Its local signs are so well known that they need no description here, but the "eccentric" symptoms, as they are termed by Dr. Hammond, are multiform and varied according to the region in which this condition may be found.

Dr. GIBNEY,* of New York, has tabulated forty cases of spinal irritation in children, in which three had well marked symptoms of Pott's disease, ten of hip, eight of knee, and five of ankle-joint disease, and two of torticollis.

I have seen cases of it in children in whom it gave rise to extreme round shoulders, in a few to lateral curvature, and in one a well marked club-foot. It is the most frequent cause of the cases of contracted hamstrings often found in children. In the adult it seems to run toward

*Spinal Irritation in Children, as related to True and False Arthropathies, Trans. Amer. Neurological Assoc., 1877.

neuralgias, hyper-and anesthesias with loss of muscular power, though cases of simulated joint lesion are often seen, and "hysterical" wrist-drop is not infrequent. Its influence as an orthopedic factor with this wide range is certainly not a small one.

The diagnosis of spinal irritation is generally an easy matter, especially so when the eccentric manifestations are prominent, and perhaps then because the cause is more earnestly sought for, but that many cases are overlooked or mistaken for other diseases there can be no doubt. Perhaps it is mistaken for the early stage of Pott's disease, more often than anything else, and the symptom of tenderness on pressure which has until of late years been regarded as one of the characteristics of vertebral caries, has led many into this error. As a matter of fact, tenderness on pressure is a very unusual symptom of vertebral disease, and is seldom found unless there be some meningeal complication. I am aware that pain is frequently elicited in infants when pressure is made, but young children in the early stage of Pott's disease are very irritable children, and they would cry if pressure were made over the occiput or os calcis. The tenderness of spinal irritation is generally a superficial one, though it is always elicited by deep pressure. The tenderness found in a few cases of uncomplicated Pott's disease is rarely a superficial one. Epigastric pain, a common symptom in the early stage of caries, is also well marked in spinal irritation in the lower dorsal region. But the spinal rigidity that is characteristic of the bone lesion is not found in the neurotic condition. This symptom is always of great value, and a diagnosis of caries is often made from it when the others are wanting. I saw a case some months ago through the kindness of Dr. McMechan, in his ward at St. Mary's Hospital, which illustrates some of these points. A strumous boy of fourteen years, with old knee-joint disease, had been admitted a few days before, complaining of his back. He said he was unable to work at his trade on the tailor's bench because of the pain between the shoulders and in his side. He gave no history of injury, and was in fair health. On examination there was found marked tenderness on pressure over the spine between the shoulder blades, and intercostal tenderness also. The spine was perfectly flexible, without pain, and I felt satisfied there was no vertebral

disease, and gave a diagnosis of spinal irritation from strain, due probably to the position he was compelled to assume by his work. A large fly-blister was applied, which gave relief, and when the boy left the hospital, in about ten days, the tenderness had disappeared altogether. This boy was an excellent subject for Pott's disease; he was strumous, so well marked that he had had chronic osteitis of the knee, but the absence of any rigidity about the spine made the diagnosis comparatively easy. I do not mean to draw the inference here that the diagnosis of vertebral caries before the stage of deformity is generally an easy matter, for it is not always so. Cases appear which have to be seen more than once before a certain diagnosis can be given.

The differential diagnosis when the hip is affected is often a difficult one. The neurotic hip is usually a very rigid one, or attended with complete absence of muscular spasm. It is at times very painful and tender to pressure, and again neither of these symptoms are found. But it is not accompanied with any muscular atrophy, which the true hip lesion will show in a few weeks, and the reflex muscular spasm is not present, or if so, it is exaggerated to a degree seldom found in the early stages of osteitis. The spinal tenderness will always settle the diagnosis, but the neurotic joint is occasionally found when there is no spinal tenderness, and the other symptoms must be relied on if a diagnosis is attempted. In all these obscure cases it is better to treat them at the beginning as neurotic until the diagnosis is unmistakable. Nothing is gained if a mechanical appliance is used before the necessity for it is evident, and these cases may possibly be the ones which are reported occasionally as cured from the use of certain splints.

The knee is a favorite seat of this neurosis. It presents symptoms very much like those of the hip, but the deformity, when present, is much more marked. In many cases there is swelling. I have not been able to find the "points of tenderness" very often, which are regarded as pathognomonic when present.

The ankle is affected in a considerable number of cases.

The only case of neurotic club-foot that I have seen, presented itself during my service in the Hospital for the

Ruptured and Crippled, New York. It was in a stout German girl of fourteen years. The foot was in marked equino-valgus. The deformity was of five or six weeks standing, and had come on suddenly. There was no history nor mark of injury. The cause was sought for and found in the spine, and the deformity was soon relieved by measures directed to that region.

The motorial weakness which is at times the result of it, may be illustrated by the following cases: About a year ago I received a letter from a gentleman in the interior of Ohio asking my advice about his sister, a short history of whom he sent me, saying she had "rheumatism of the spine." The patient was brought to the city in a few weeks. I found an unmarried woman, aged 30, with the following history: The mother died of mammary cancer, father of heart trouble following rheumatism. There was no history of phthisis, and the other members of the family were in robust health. Had diphtheria at 8 years, followed by loss of voice and hearing for some time. Was quite healthy up to the time she began menstruating at 15 years. Menstruation has always been irregular and painful. Had three distinct attacks of acute articular rheumatism—last one two years ago, involving knees, ankles and wrists. The attack lasted six weeks, and when it passed off she was unable to leave her bed, or even to sit up, because of her enfeebled condition. There was great pain along the upper dorsal region of the spine, with marked tenderness. This was first noticed during the rheumatic attack. She remained in bed for over a year, when she was able to sit in an invalid's chair. She attempted to walk, and was able to get across the room once, but it weakened her so that she was unable to do anything for weeks. There was no stiffness in any of the joints, nor any pain except in unfavorable weather. There was marked spinal tenderness always during these two years, and intercostal pains. She was treated thoroughly—the bromides, strychnine, and various tonics had been used. She was blistered several times, and electricity (faradism) was used for awhile, but all without benefit.

On examination she was found to be thin and very anemic. She was able to stand, but the limbs began to tremble almost in a moment. She was unable to take a step. The spine was excessively tender in the upper cer-

vical and middle dorsal regions, but its flexibility was good and painless. Intercostal tenderness was marked. The limbs were atrophied a little. Muscular power was found, but very much weakened. Knee reflexes greatly exaggerated, and ankle-clonus marked. There was no evidence of rheumatism except a little thickening about the ankles. A diagnosis of Spinal Irritation was made. The patient took a room at the Good Samaritan Hospital, and treatment was begun as follows: The Paquelin cautery to the spine three times a week; faradism and massage to the lower limbs daily. The elixir of iron, quinia and strychnia was ordered, but she took only a few doses of it, as it disagreed with her stomach, and sherry wine was ordered in its stead. A spinal apparatus was applied in ten days simply as a support. The spinal tenderness rapidly subsided, and also the intercostal pain, but it was two or three weeks before the patient attempted to walk. She began, however, very timidly at first, but gradually became stronger, and at the end of five weeks she was well enough to go about the halls. Two weeks later she returned home. The only spinal tenderness remaining was in the upper cervical region, and it was necessary to use deep pressure to elicit this. She had pain, however, when she felt fatigued. Muscular power had greatly increased, and the tremors had disappeared.

Early in the treatment I asked Dr. Reamy to see her with me, as she said she had been treated for uterine displacement. The Doctor found neither disease nor displacement, but a slight ovarian tenderness. The patient continued to improve while at home. I saw her again in September for a few weeks. Faradism has been about the only treatment used for the past eight months, and she discontinued that of her own accord early in the spring. She has gained nearly fifty pounds in weight during the past year. Has a trace of tenderness on deep pressure still, and occasional intercostal pains if she tires herself by too much exercise. Has no difficulty whatever in walking.

For the notes in the second case I am indebted to Dr. Fattig, late interne in the Good Samaritan Hospital, and to Dr. Reamy for his permission to report it in this connection.

Mrs. B., aged 29, Kentucky. Admitted to Good Samaritan Hospital, Sept. 17, 1884. Married 14 years,

no children. Menstruation at 14, regularly. Eighteen months prior to marriage was troubled with abdominal pain and weakness and pain in back. Grew thin and anemic and unable to work. Pain in back continued to increase in severity, especially so after exercise. For more than five years has been unable to do any household work, and has not been able to walk for a considerable period (time not stated).

She was very anemic, sallow, and looked as if she had chronic malaria. She had a slight posterior curvature in the lumbar spine, very marked tenderness on pressure, and pain and tenderness over the sacro-iliac regions. Spinal tenderness also in middle dorsal region; unable to walk; complains of a great deal of pain.

Dr. Reamy asked me to see the case about the first of November. I found her as the notes state, except that she had improved a little, and could take a step or two. There was no spinal rigidity, and the slight curvature was probably due to weakness. I advised the cautery twice a week, and spinal support. She had been getting faradism daily to the limbs since her admission, and this was continued. Fowler's solution was taken regularly throughout. I cauterized the spine with the Paquelin twice a week for about six weeks. The improvement was marked and rapid. Before the holidays she was able to go about the ward quite actively. She still had exacerbations of pain, however, though not so often nor so severe as formerly. She wore a strong corset as a support, and she found it very comfortable and efficient. The spinal tenderness was greatly improved, but it still remained to a slight degree. I used the cautery every week or ten days until she left the hospital on Feb. 12, 1885. Her general health was not much improved, and she had occasional exacerbations of pain, but her locomotion was all that could be asked for under the circumstances.

A letter received from her about three weeks ago states that she has continued to improve. She does all her own work, something she had been unable to do for years, and she has much less pain than when she left the hospital.

These two cases were to me extreme ones in the loss of locomotion, and yet there was no paralysis in either, only a paresis. Paralysis and paresis are mentioned by

most writers as results of this condition, but few cases are reported. The history of the first case might give rise to considerable speculation on the unsettled question of pathology, viz: as to whether acute rheumatism has any direct influence in causing anemia of the posterior columns of the cord. But that is not a part of our subject.

It has been a question in my mind since I saw these cases, whether the system of rest and massage advocated and so thoroughly carried out by Dr. S. Weir Mitchell, would have given a quicker or a better result. Certainly either would have been an excellent subject for the method.

The treatment in children is usually very simple and very efficient. Counter-irritation by means of a generous fly blister to the tender spine is followed by prompt relief. The blister is better adapted to children, and as its results are as prompt, and even more so than the cautery, it is to be preferred. The cautery always frightens the child, and the second application is looked upon with the greatest terror, though in reality it is less painful than the blister. Dr. James Knight, of New York, recommends the blister as a *derivative* and not as a *counter-irritant.* He poultices the blistered surface for two or three days. I believe the course of poulticing adds a great deal to the efficacy of the cantharides. An iron tonic will be of service in preventing a return of the tenderness. For the neurotic joint local treatment is seldom necessary, but there are a few cases in which any fixed dressing is beneficial from the rest given the parts.

In adult cases the treatment is a little more extensive, and the results are not always so prompt as in children. There are many which yield quickly to the blister, but a rather prolonged course of treatment is necessary in the more marked cases. The remedies generally recommended, aside from the tonics, are phosphorus, strychnine and opium by Hammond, ergot and belladonna by others. All of these with the exception of opium I have seen tried, and I do not believe I have seen any benefit from them. Spinal irritation is often treated by the "shot gun" method, as it has been called, and when any improvement results it is next to impossible to know to what particular "shot" it should be credited.

Dr. Hammond speaks very highly of alcohol, and in a few cases in which I have used it, it seemed to be of service. The stronger liquors, such as sherry and whiskey, agreed better than the light wines.

The real treatment is the counter-irritation, for without it no marked benefit is obtained unless the Mitchell plan be used. As to the question between the blister and the cautery—it is hard to draw a line as to their comparative merits. Many cases that do not yield to the one, yield to the other, but I believe that the blister is more efficient in the larger number of cases. Its action is deeper than the iron, but in cases in which many applications are necessary the cautery is preferable. It is far less painful than the blister, the adult patient has no fear of it after the first or second application, and its effects are none the less marked, if not so prompt. The cauterizations can be repeated two or three times a week. Five or six strokes of the iron, hardly deep enough to leave an eschar, are sufficient.

Galvanization over the tender spine is at times used, and is of benefit, but it should not take the place of the blister or the cautery. Hammond believes the benefit derived from it due solely to its counter-irritation.

Among the adjuvants I believe spinal support applied in any removable form, either leather, steel, or even a strong corset, to be of great service, and I believe it is underestimated. Hammond does not mention it, and Gibney speaks of it only incidentally in the reports of a few of his cases, and I do not think he uses it at the present time. I remember reading an article from a New England physician some five years ago, advocating spinal support in these cases. Theoretically and practically I believe it to be indicated—theoretically, because the irritable spine is a weakened spine, and support aids it as the crutch or cane does a weakened limb after the fracture-dressing is removed; practically, because the patient experiences comfort and relief from it, and it is with difficulty they can be persuaded to remove it when a support is no longer necessary.

Faradism is very useful when there is weakened muscle, and limited massage is also of service.

On the obvious necessity of tonics, good air, good food, and cheerful surroundings, it is unnecessary to dwell.

[For discussion of this paper see page 144.]

DISEASES OF THE SPINAL CORD.

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At the request of our honored president, I present this paper, in which I shall attempt to bring out some practical points in the diagnosis of diseases of the spinal cord. The importance of the subject, on account of the comparative frequency of these diseases, and the ofttimes difficulty in their diagnosis, is my chief reason for its presentation. But, it seems to me, errors in diagnosis are less commonly due to real obscurity about a case than to an absence of knowledge of the leading factors upon which a diagnosis is based. In proof of the truth of this statement, but particularly to present the subject to you in a practical manner, I have selected a number of cases, representing the most common diseases of the cord, from my case book, in which errors of diagnosis had been made, even by men of prominence. These cases will give us occasion to bring out the salient points in their diagnosis, at the same time that they illustrate how easily mistakes are made when those points are overlooked.

CASE I.—Mr. W., age 38, had been treated for rheumatic pains. When I saw him he gave a history of having had frequent paroxysms of severe lancinating pains in the lower extremities for several years, and also various anomalous sensations, numbness and formication in the limbs, a sense of constriction about the waist, etc.

On careful examination some impairment of sensation in the lower extremities, a degree of insecurity in the feet when the eyes were closed, and an abse[illegible] patellar tendon reflexes were found. The

servable some impairment in the gait, which, the patient stated, was worse at night.

The symptoms in this case were so pronounced that there was no excuse for an error in diagnosis. Locomotor ataxia should have been positively diagnosed. This diagnosis is based upon the history of characteristic lightning pains, peculiar sensations, and difficulty of walking at night, together with slight anesthesia, inability to stand firmly with closed eyes, and absence of the patellar tendon reflex.

Yet cases occur in which a diagnosis cannot be made so easily, where the nature of the pains is more doubtful, as the disease has made but little progress and its more striking symptoms are, therefore, not yet manifest.

I wish to lay especial stress upon a few symptoms which, even at an early period, enable us to make a positive diagnosis. These are the characteristic lightning pains, the absence of the patellar tendon reflex, and certain ocular symptoms which, though not found in the patient just spoken of, are often the earliest manifestations of the disease. These symptoms are: transitory paralysis of some of the external muscles of the eye, causing double vision; the so-called Argyl Robinson phenomenon, a small pupil, which does not respond to light, but contracts during the act of accommodation; and, more rarely, atrophy of the optic nerves. One other I may add to the early symptoms, though perhaps too much importance has been attached to it—the Brach-Romberg symptom, inability to stand firmly with closed eyes.

CASE 2.—Mr. K., age 35, has had some difficulty in walking for about six years. He has also had slight bladder symptoms. Locomotor ataxia had been diagnosed. But the conditions present were quite different from those of locomotor ataxia. The gait was feeble, not ataxic. There was often a feeling of stiffness in the limbs. The patellar tendon reflex was exaggerated, and, another manifestation of excessive tendon reflexes, the foot clonus could be elicited. The three symptoms upon which I laid so much stress in connection with locomotor ataxia, lightning pains, absence of patellar tendon reflex, and ocular symptoms were not present. Another symptom, swaying of the body when trying to stand erect with closed eyes,

was present. But too much reliance must not be placed on this symptom, as it is often misleading.

This patient has a different disease of the cord. In locomotor ataxia the posterior columns are the chief seat of disease. In our patient there are changes in the antero-lateral columns, what is commonly termed lateral sclerosis. Its usual symptoms are altogether motor, paralysis, with ofttimes rigidity or spasmodic contraction of muscles, and exaggerated tendon reflexes.

It may appear to the superficial observer that there is little practical difference whether the disease is limited to the posterior or lateral columns, that a nice diagnosis is of no consequence to the patient. But, in fact, it is a matter of much consequence. Not only are the subjective symptoms of locomotor ataxia severe, while those of lateral sclerosis are insignificant, but the prognosis of the latter is decidedly better. In illustration of the latter statement I will mention a case seen in Newport in consultation with another physician. When I first saw the patient, about nine months ago, he had been unable to make the least voluntary movement of the lower extremities for over a year. Both the family and the physician in attendance believed the case to be utterly hopeless. I at that time gave a guardedly favorable prognosis. At the present time the patient can move his limbs freely, and there is some hope of a complete recovery.

CASE 3.—Mrs. N., age 30, four years previous to my seeing her, observed some weakness in the lower extremities, so that she was unable to lift the feet in walking as well as formerly; could not arise easily from a sitting to a standing position, etc. The weakness subsequently invaded the muscles of the trunk and the upper extremities. When I saw her the deltoids, the biceps of the arms, and the quadriceps femoris of both sides, as well as many of the muscles of the back, were almost completely paralyzed. Especially noticeable was the patient's method of arising from a sitting to an erect position. She succeeded in extending the knees by pressing with the hands upon the thighs, and then raised the trunk with the assistance of a chair or other external support. In this effort a remarkable curving of the spine in the lumbar region was produced, presenting an appearance as though there were no unyielding parts about the spinal column, and led to the

suspicion on the part of one of the physicians who saw her that she had disease of the vertebræ.

But a diagnosis in this case ought to have been readily made. There was in addition to the paralysis, atrophy of the muscles, and, a point upon which too much stress can not be laid in connection with the diagnosis of such cases, a loss of electrical contractility in the affected muscles. The atrophy and altered electrical reaction of the muscles, together with the history of gradually extending paralysis, were quite sufficient to establish the diagnosis of progressive muscular atrophy, though in this case the manner of development of the disease was an unusual one and had, therefore, misled other observers.

CASE 4.—Mrs. L., age 52, had been operated upon for carcinoma of the mammary gland. About eight months after the breast was removed she began to suffer with severe pain on the same side, like that of intercostal neuralgia. Subsequently she was seized with severe pain in the lower extremities, hyperesthesia of the surface, and paraplegia, with some atrophy of the muscles of the legs.

I saw her, in consultation, about six months after these symptoms were first manifested. The symptoms were those just given. Myelitis had been diagnosed. I called attention to three important factors, the gradual access of the symptoms; the severity of the pains, seldom, if ever, found in ordinary myelitis; and the history of a previous malignant disease of the breast; and gave, based upon these factors, a positive diagnosis of malignant disease within the vertebral canal, and a prognosis of a fatal issue within a year. The subsequent history of the case strengthened the diagnosis. There was a gradual increase in the paralysis and muscular atrophy, motion of the vertebral canal became very painful, and, at a later period, there occurred some deformity of the spine. The patient died nine months subsequent to my seeing her, and, on post mortem examination, numerous carcinomatous nodules were found in the vertebræ and in the cord.

The symptoms which became manifest after I had seen the patient, pain on movement of the spine, and deformity, indicated that the vertebræ were the seat of disease, and were, therefore, of great weight in diagnosis. But the earlier manifestations were quite sufficient to make a correct diagnosis. Paraplegia, with pains so severe that

the name paraplegia dolorosa has been applied to designate it, is rarely, if ever, found, excepting with malignant disease. When we find, in addition, that malignant disease has been found in another part of the body, no doubt of the diagnosis should be entertained.

I thought of adding the history of a few cases of neurasthenia, in order to contrast functional and organic diseases of the cord, but am unwilling to occupy more of your valuable time. However, what is essential to the diagnosis of functional disease is that we should be able to exclude organic disease. So in all such cases symptoms of the latter should be sought for.

If a patient comes to us with a history of pains, of weakness, or anomalous sensations pointing to the cord, we should examine as to the presence of ocular symptoms, as to the condition of the cutaneous sensibility, of the tendon reflexes, of the vegetative functions, especially bladder and rectum, and as to the kind of gait, to see whether there are any indications of the presence of locomotor ataxia. We should then examine further to see whether any motor paralysis with increased tendon reflexes and rigidity of muscles point to disease of the motor columns of the cord, or paralysis and atrophy of muscles with altered electrical reaction point to affection of the gray matter. If all such symptoms can be excluded we are probably in the presence of a functional disease, which, with time and proper treatment, can be entirely removed, and whose positive diagnosis will bring immediate mental relief to an anxious, perhaps despondent, sufferer.

[For discussion of this paper see page 144.]

DISEASES OF THE SKIN OF REFLEX NERVOUS CAUSATION.

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However important we may regard the nervous element in the evolution of skin diseases, two distinct varieties of *Neuroses Cutaneæ* present themselves to the clinical observer. One is a SENSO-NEUROSIS, in which the characteristic feature is a disturbance of cutaneous sensation, unaccompanied by any visible lesion. Impressions made on the peripheral nerves are transferred ere they reach the *sensorium commune* and are recognized as coming from parts more or less distant from their actual source. Transferrence of impressions is not limited to diseases of the skin, neither is it always pathological; clinical experience has taught the surgeon to seek at the hip joint for the source of the pain which the patient refers to the knee; he sounds for stone in the bladder, when the pain is in the glans penis; in like manner if any part of the respiratory tract be irritated, the sensation will be referred to the larynx.

The second variety is a TROPHO-NEUROSIS, which is characterized by anomalies of nutrition. As subdivisions this includes anomalies of secretion and pigmentation. Like the first, this variety is sometimes physiological, but it differs from it, in that the incoordination affects the vasomotor or trophic instead of the sensory nerves. In this, impressions made on the sensory cells of the cerebro-spinal ganglia are transferred to the motor or vasomotor cells and finally reappear at the periphery as muscular contractions or trophic changes. The impression which was received from the larynx straightway passed from the sensory to the motor cells, which in turn gave rise to momen-

tary muscular contractions—a cough. Impressions are transferred more readily from cell to cell when the latter are in a state of exhaustion; thus a sudden and unexpected noise, a flash of light, will call out motor and vasomotor action—a shock, a blanched cheek,—in one laboring under nervous debility. Neuroses of the skin are met with in such neurasthenic persons either when they are suffering from pathological changes in the viscera, or when the viscera are undergoing physiological evolutions—as pregnancy—thus becoming remote foci of irritation.

Pruritus is a representative senso-neurosis, and as a disease *sui generis* and not a mere accompaniment of cutaneous inflammation, may be brought on by irritating afferent nerves in distant parts of the body; generally, too, we can point out the offending member by the character and location of the pruritus.

After a study of several years on this subject let me summarize the conclusions drawn therefrom as follows: Pruritus of the palms and soles is usually met with in females having some mild uterine ailment of long standing. Pruritus of the scalp, at times accompanied by a sense of weight, is met with most frequently in women with a subinvoluted uterus, or with a ruptured perineum. Pruritus vulvæ, unaccompanied by vaginal discharge, is a common symptom of pregnancy; less frequently it precedes each menstrual flow.

In the male the most troublesome pruritus occurs on the genito-anal region, usually in adults subject to constipation; in two cases helminthiasis was thought to be the exciting cause. It is often difficult to diagnosticate this affection from eczema on account of the delicate skin of the parts. When at first I encountered this disease I called it eczema and thought it due to blood stasis, as one so often sees on legs with varicose veins, but I do not now so regard it:—Because it seldom accompanies hemorrhoids; because it first appears as a pruritus, later, when lesions of the skin appear, they are the outcome of vigorous and oft repeated scratching; because other anomalies of nerve influence at times accompany or alternate with that of sensation; and because it is frequently limited to one-half of the body. The points herein given will be readily seen exemplified in the cases which follow.

CASE I. C. B., male, aged 44, married, a salesman, who holds a responsible position; he takes but little out-of-door exercise, and has not taken a vacation for years. He is of a neurasthenic type, has been habitually constipated for several years, and during the last three has been afflicted with furunculosis; six months ago, (Aug. '83,) pruritus of the scrotum first appeared. He said at night after going to bed the right side of the scrotum and adjacent surface of the thigh would transpire so freely that the bed clothing would be perceptibly moistened thereby; in a few minutes this would be superseded by itching so intense that sleep was impossible for several hours. For a time there was no tendency to dermatitis and the nail marks of these nightly invasions healed kindly. When I saw the case it appeared to be eczema marginatum, with considerable induration. I did not recognize its neurotic nature until I saw that the sweating preceded each application of a strong solution of caustic potash which previous applications had taught him to dread. With a few weeks' treatment the dermatitis disappeared, but the pruritus remained until free daily evacuations from the bowels were established.

The questions which naturally arose were these: Was not the exciting cause the presence of effete products in the blood which acted on the sensorial ganglia? If so, why should it select the ganglion presiding over this particular region? Or was it impacted feces which irritated the afferent nerves, they acting reflexly on the skin? The latter I think the true explanation, and the class represented in the next case tends to confirm this view.

CASE II. D. C., male, aged 30, a carpenter of neurasthenic temperament, had suffered during the three years last passed from a severe pruritus of the genito-anal region which he supposed to be "itching piles." Paroxysms of itching would set in every evening at four o'clock and continue with but few and short intermissions until three in the morning. The suffering was so great that he threatened self-destruction if he could not find relief. An examination as to the cause of the itching left little doubt that helminthiasis had much to do with it, as thread worms were found in abundance. Suffice it to say that the pruritus disappeared with the disappearance of the ascari, and

in my opinion it was due to radiated sensation from an irritated colon.

CASE III. Mrs. R., aged 38, complained of being very nervous, also of an eruption on the scalp which had existed two years. My diagnosis was eczema capitis, and I prescribed accordingly; at the end of a week I saw her again when the eruption was much better, but the pruritus had not abated correspondingly, as three deep nail marks attested. At the end of a fortnight the lesions had disappeared, but the pruritus remained; local measures were employed for this without avail. Upon inquiry the patient said that during each pregnancy she had suffered from pruritus vulvæ; Dr. M. Rosenwasser, to whom I am indebted for the case, said the only pathological state he had discovered was a subinvoluted uterus. The case is still under observation.

CASE IV. C. J. H., male, aged 35, holds an important mercantile position which confines him within doors; he is an excessive smoker and says he is very nervous. He consulted me for a troublesome pruritus which had existed in the same position on the left side of the perineum for two years; there was but little accompanying dermatitis. The feature I wish to bring out in the history of this case is this: The patient had been troubled with constipation since he took to office work five years ago, and since the pruritus appeared he noticed that it was influenced by the condition of his bowels; when they were free the itching disappeared, and the more constipated he was the more severe the itching. Three months treatment, consisting of a slight change in the routine of his daily life, with tonic laxatives, has given him complete relief for one year, up to the present writing.

The remaining cases are Tropho-neuroses.

CASE V. S. B., female, aged 17, unmarried, apparently in good health, barring an eczema of the lower extremities and irregular menstruation; the former had troubled her two years, the menstruation had never occurred with regularity but in periods varying from three to six weeks. The special feature in the case is that the eruption rapidly subsided just before each menstruation and regained former severity about a week afterwards. This peculiarity was first noticed by the patient soon after the eruption appeared, and I had the opportunity to verify

it while she was under treatment. I was not permitted, however, to investigate to any great extent as to the cause of the irregular menstruation, and she passed out of sight only partially relieved. About three years after this I saw her again; she said the eruption had troubled her until a year ago when without treatment it left her. Upon further inquiry I found this corresponded in time to her marriage. She had a child two months old.

CASE VI. Mrs. L., aged 59, a widow, had a vesicular eruption appearing not unlike hydroa on the back of the right hand, and radial side of the middle finger of the left. The family history is unimportant, save in the fact that a sister of the patient is insane. Her previous condition had been free from bodily ills, except the "whites" which came at the age of 40. At the climacteric change which took place at 54 the eruption first appeared, and it maintained the same character, and occupied the same positions to the end. In brief, four months' treatment availed nothing until she obtained relief from a retroflexed uterus with endometritis, when the eruption subsided under the same treatment which before had been used without benefit.

To conclude: The most marked Tropho-neuroses coming under my own observation have closely simulated eczema, but unlike eczema, the eruption whether papular, vesicular or squamous, remains as such throughout its entire course.

Derangements of the sebaceous glands have been previously spoken of in this connection*. Next to the eczematous groups they are the most frequent.

Senso-neuroses are, *ceteris paribus*, more frequently associated with conditions of a mild nature,—functional disturbances, nerve irritation and the like: Whereas Tropho-neuroses, *ceteris paribus*, more frequently accompany pathological conditions of a graver import, e. g., nerve lesions or gross destructive changes in the cerebro-spinal substances; although we must admit that the latter also are not infrequently due to functional disturbances alone.

**Columbus Medical Journal* for October, 1883.

DISCUSSION:

DR. REED, of Mansfield: These papers are exceedingly interesting, and to me personally the first paper much more so than the others. I wish more particularly to apply my remarks to the first paper on spinal irritation. It is something which is very troublesome and very annoying if we do not get at it in the proper manner. I was particularly well pleased with the paper, and particularly so with that part of it relating to the treatment of spinal irritation. We all know that in these cases we often have many reflex symptoms which are very annoying. We have frequently lung irritation, bowel irritation. Almost any of the organs governed by the reflex system of nerves may be irritated. Difficulties arising from these are liable to complicate them. In the treatment of these cases I have never found anything so satisfactory in its results as the use of the actual cautery. I know that it is customary to use blisters. Many patients come to me who have been treated by blistering and also some who have been given strychnine. I have in my mind now several cases. One of them in particular that had been treated for more than a year with blistering and with strychnia. This patient came to me and I used the actual cautery, and the patient was able to sit up soon, and in two months she was convalescent. I had another case that came to me of a similar character. The party had been under treatment for two or three years for a form of spinal irritation. She was hysterical. Had difficulty in breathing, was suffering from constipation. All the treatment I used in this case was simple nourishment, with the actual cautery, and her recovery was quite rapid. She got perfectly well. I only want to emphasize the point which was so well brought out by the author of the paper in regard to the use of the actual cautery. I do not think that there is as much benefit derived from the use of blisters as the writer appears to think from his paper. They have certainly not been so beneficial in my experience. As to the painfulness of the two methods there can be no comparison. The actual cautery is used under the influence of an anesthetic, and it does not fail. Some of these cases I burn quite deeply. In one or two cases I was obliged to repeat the operation, but the results were the same. They were favorable. We should, however, use discrimination in these cases.

DR. BRINKERHOFF, of Fremont: I have but very little to say on this subject, but it is to emphasize most emphatically the treatment laid down in the paper. Unfortunately both for myself and also for my patients, there has been a very large amount of spinal irritation. As Dr. Reed very truly said, we often get it in the form of nervous dyspepsia and in other forms. The point which I wish to emphasize more especially is the absolute necessity of counter-irritation. So far as my own individual experience is concerned, blistering, although more painful, has certainly been more effective than the actual cautery. With cauterization I have had less rapid results, and in some instances complete failure. In some classes of patients there exists such a condition that they need tonics—iron particularly. Some again need stimulants, others still do not. Some are benefited by the nerve tonics, such as strychnia.

DR. HERRICK, of Cleveland: I must confess that I am somewhat confused in mind in attempting to enter upon the discussion of this paper. One of the gentlemen speaks of spinal irritation, of a diseased condition of the spinal cord, of sensitiveness of the spinal cord, etc. Another, of diseases of the spinal cord or of the nerve centers. Another, of results involving the integuments and of results involving the tissues. I confess my confusion and perhaps my ignorance. I have practiced medicine for twenty-four years and I have never had a case of spinal irritation. I find we are very much inclined to get hold of a symptom and to treat that symptom. We are inclined to prescribe for a cough. We are inclined to prescribe for sugar in the urine, for albumen in the urine. We should go back to the organs themselves, to the source of the trouble. We should draw our inferences from the pathological condition of the organs so far as we have any.

I speak thus, gentlemen, not in regard to the papers. I am highly pleased with the papers. But I must say that I have never seen a case that I could regard *de facto* as one of spinal irritation. But you will always find some disease of some organ or part aside from the spinal cord. You will, I say, find some disease of some part aside from the spinal cord which is the real source of the disturbance. The uterus is sometimes, is very frequently, the source of

the trouble. Sometimes again it is the digestive organs. Sometimes it is the result of constipation. The spinal cord has no special function. What is the function of the spinal cord? I have always regarded the spinal cord as merely a conductor, as a combination of fasciculi of the nerve filaments from the ganglia of the brain. A mere distributor of the forces. The spinal cord is a conductor. The system is a machine, if you please, just for the figure, an electro-dynamic machine. If you sever the nerve of my arm, it is paralyzed. The means of communication between the source of power and the muscles of the arm is broken. Where is the source of energy in my body? I think we are justified in saying that it is in the gray substance of the brain and the ganglia of the base. It is sufficient for us to say that the forces of the body are derived from the gray substance of the brain. That there are foci in the brain which distribute to the different parts of the body the motive forces. The spinal cord conducts these forces. The gentleman speaks of disorders of the spinal cord, of diseases of the brain itself. We do have a hardening of the spinal cord.

What are the conditions of the action of the forces in a galvanic battery? You must have in the first place the positive pole and the negative pole—the zinc and the copper. You must have also the fluid which shall be the medium between the two poles of the battery. You must also have the wire—the conductor of these forces.

So it is, gentlemen, with the neurotic forces. We have as the factors the blood, the tissues, the nerve-cells which evolve the forces and also the conductor which transmits these forces to the different parts of the body. Now where are you going to say that this disease is in the spinal cord? If this idea is correct, your treatment of blistering is sure to fail. This treatment corresponds exactly with that treatment of many years ago, referred to by our President in his address, that of persistent phlebotomy. I tell you, gentlemen, I am convinced that this whole idea of diseases of the spinal cord is wrong. I do not call in question the diseases of the skin but I do call in question the statement that they are due to spinal irritation.

DR. BEACH, of London: Mr. President, as to the physiology of the so-called disease of spinal irritation, I do

not say but in chlorotic or anemic subjects I find tenderness on making pressure over the spinal column. I look on it, ordinarily, if I cannot trace it to a specific cause, then I dismiss the subject by saying it is a case of spinal irritation.

As to the treatment, I take ordinary adhesive strips of the size, width and length I want and place upon them a piece about the size of a grain of wheat of cerate of cantharides, and then place the strips in position. If there is no improvement, I repeat the operation and often keep it up for some time. But as a general thing I find that the tenderness along the spinal column disappears. This is a very convenient method of treatment for spinal irritation. I have been using it for perhaps ten or fifteen years. I had difficulty in finding anything else suitable.

DR. GILL, of Cleveland: Mr. President: After we have exhausted our means of ascertaining from the pathological condition and from our physiological knowledge, we can then, as a last resort, go to the touchstone of clinical experience, and in many of the diseases that we treat, that is the last explanation.

We find that certain remedies produce certain effects without knowing just how they do produce these effects.

Now, is it not admitted, so far as reasoning can go, that we have a condition of the spine from irritation at some of the inner surfaces of the nerve plexuses producing irritation of the spinal column, and which cannot be referred to the brain, and which cannot be referred to the point at which the irritation occurs. We call this reflex. I am sure I have seen cases, and I think I have found a good many cases described in the books that come under this discrimination. The pain felt by the patient being far removed from the point of irritation, we call that reflex. I do not know that we can demonstrate this exactly. Clinical experience proves, and the papers that have been read are full of information that certain applications remove this hyper-sensitiveness of the spinal cord.

We must not reject this treatment because we may not understand just the method by which the irritation is accomplished, or the relief is obtained. We cannot reject it because we must take some things from their clinical history. You all know the use of Peruvian bark, yet it

was entirely from clinical observation and not from any theory that the Peruvian bark and its extracts came into use. It was a clinical effect. In pathological changes of the spinal cord we will ascertain what we seek if we can; from clinical experience if we can.

I wish to add that I have been very much entertained and instructed by th papers.

DR. HALDERMAN, of Columbus: The title to this paper is spinal irritation. I do wish the author of this paper had told us what spinal irritation is.

Now as to the treatment of spinal irritation, whatever that may be, the disease must be either functional or organic. If it is of a functional character we are still very far from knowing what it is.

There are many indications in my mind in the management of some of these cases. I do not believe that they can be conformed to any certain rule of treatment. We have had advocated counter-irritation both by blistering and by actual cautery. If this irritation of the spinal cord is due to hyperemia of the vessels, I suppose this counter-irritation would have a salutary influence. From my own experience, I venture to say you will meet with very little of this kind of trouble of the spinal cord. Young physicians who are practicing medicine where persons are not given to sedentary habits of life, will have but little if any of this kind of cases, which occur in young women who are of sedentary habits, pampered in all kinds of ways and who don't take sufficient exercise, etc. And it is chiefly for the want of that I think that this state of trouble comes about. I have had some experience with this so-called irritation, not particularly of the spine but of some of the other nerves, and among others I consulted a very prominent authority upon this subject, Dr. Beard, and he had a view of my case. He was certain that he could benefit me and cure me, and I had an opportunity of trying the treatment just now advocated. The trouble in my case was an exceedingly painful affection of the eye. He insisted from day to day that I should allow him to apply the actual cautery. I finally did so, and to my great regret, and so long as that kept up I was greatly annoyed. He had a wrong view of it. If there had been a state of hyperemia existing, benefit might have followed, but instead there was really a stateof anemia.

The treatment by rubbing and the so-called movement cures are only a kind of exercise.

Now in my experience persons of this kind are very much more benefited if you send them away from home—get them out into the open air horse-back riding, rowing, taking open air exercise of different kinds. Plenty of good food, that kind of food that will be assimilated by the system, eggs, milk, etc. I think there is a great deal of unnecessary ado in the treatment of this kind of cases. I am aware that there is high authority for what has been said. The whole sum and substance of it is simply a question of the nourishment of the nerve centers for this so-called spinal irritation. The same thing is true in regard to what have been called reflex disorders, etc. Trouble of the spinal cord *per se* is for the most part of an anemic character. There may possibly be plenty of blood in the vessels, but unless the blood is properly in motion and properly changed there is anemia.

Nourishment cannot take place until there is a proper sort of exercise. I think there is a great deal in this as regards the successful treatment of these cases.

DR. RYAN. Mr. President: The first question brought up by Dr. Reed was in relation to the difference between the results brought about by blistering and those of the actual cautery.

In my own practice I use the blistering with young children and the actual cautery with adults. In regard to the constitutional treatment, of course that must be carried out very thoroughly. The gentleman who spoke on this subject said he had never seen a case of spinal irritation. I think the symptoms of this disease are exceedingly well marked in every case; tenderness over the spinal column, etc. The question is asked by him what is spinal irritation, and he requested that the author of the paper should tell us what it is. He then goes on to tell us of conditions of anemia and hyperemia, of hyperemic and anemic conditions. Now this is the merest speculation. We know this, that when we have the symptoms of spinal irritation when the spinal tenderness exists, we do have excellent results from the use of counter-irritants, either by blistering or by the use of the actual cautery. I do not see any use in such speculative questions as to the

existence or not of spinal irritation, when we find that the local treatment does good. We do not know whether it is anemia or hyperemia.

Another point to which the gentleman referred. He said that the so-called spinal irritation was often the result of the disease of some other part or organ. How is it then that this treatment by blistering or by actual cautery does give relief in a great majority of cases? The view which the distinguished gentleman says he has of the subject is that he must confess that he does not exactly know what this condition is, but that too much attention is paid to the local treatment and not enough to the constitutional treatment. A change of scene for the patient is, I think, of very great value. I think they will all do better if they can be taken away from their homes.

DR. ZENNER: One of the speakers has given rather a sweeping criticism on the paper presented. Perhaps this was because, as he said, he must confess want of understanding as to what spinal irritation is, or perhaps of his ignorance.

I do think possibly there are two or three things which it is barely possible that the distinguished gentleman might be told. He seems to think that all the nerve forces lie in the gray matter of the brain. He might be informed that the spinal cord is also a great center and may also be the seat of disease. As regards the subject of spinal irritation, of course that is but a name for certain symptoms. It is also rather a vague term for a rather vague disease. A great many diseases that are at present called spinal irritation may be called by some other name to enable one to make a diagnosis of organic diseases when such are present. Doubtless many organic diseases have, in the first place, been called by the name of spinal irritation in making the diagnosis. But still there are a large number of cases to which we can as yet give no other name than that of spinal irritation, but which will probably, to some extent, be limited in the future as we become better acquainted with this subject.

As regards the treatment, I think that the main thing is the general treatment, the constitutional treatment. There is one thing which must not be forgotten. This whole class of diseases occurs to persons who are predis-

posed to them; who have an hereditary tendency to them. This too explains why these diseases are not found in certain localities. Change of condition and place of residence, removal from some family trouble, and a thousand little things of that kind, improve the general health. No doubt but that the local treatment is also of value. And as regards the reflex diseases, no doubt there are many diseases of that kind. These are things we rather surmise than know. In this case I think it was purely a local disease. We cannot always make a positive diagnosis of this kind of disease.

CLINICAL NOTES ON OSTEOTOMY,

WITH REPORT OF CASES.

BY N. P. DANDRIDGE, M. D., CINCINNATI, O.

OSTEOTOMY as now performed is an operation of recent growth, and it is only within the last few years that it has been very generally adopted. Practiced as it is for the correction of deformities which, while they impair the usefulness of a limb, and more or less completely disable the individual affected, are in themselves rarely if ever the source of danger to life, the results of the operation and the dangers which attend it should be most carefully considered. We are already in possession of many accumulated facts bearing on these points, and extensive series of cases have been published by various operators with the object of showing the safety of the procedure and the eminently satisfactory results which have been obtained, extreme deformities being corrected and the disabilities depending upon them entirely removed.

Reeves, in his book on "Practical Orthopedics," gives a table of 493 osteotomies, and in commenting on it says: "I must mention that there have been no deaths, no joint suppuration, nor anchylosis. All the cases have made good recoveries with good position and motion. In many instances an addition of one, two, or more inches was added, either on one side or both, as circumstances dictated, . . . and when I add that suppuration only occurred in six cases, and that in four of them the traumatic form of measles or scarlatina supervened, I need say no more to prove the perfect safety of the operation in experienced hands."

Willett, in the last volume of St. Bartholomew's Hospital Reports, publishes "The results in a hundred cases

of osteotomy," with only one death, one case marked "not improved," and two, "relapsed."

Poor, in his excellent work on "Osteotomy and Osteoclasis," gives his results in seventy-four linear and seventeen cuneiform osteotomies: "All the patients on whom these operations were performed recovered with the deformity corrected, except two cases of *genu valgum*, on which a Reeves's operation was done and in which the condyle could not be detached on account of the relaxed condition of the external lateral ligaments."

Of the seventy-four linear osteotomies there were eight cases in which more or less suppuration occurred, and the same condition followed in seven of the seventeen cuneiform osteotomies. Of the general results which have been obtained, he states that in 1,510 osteotomies performed for "the correction of deformities at the hip-joint, for *genu valgum* and tibial curvature," 1,448 were linear osteotomies, with 15 deaths, 92 cases of suppuration, and 17 cases of necrosis, a mortality of one per cent. (and not, as he states it, .01 per cent.); and 62 were cuneiform osteotomies, with 17 cases of suppuration and five deaths, a mortality of about 8 per cent. The combined mortality is 32, or a trifle more that two per cent. The above citations are quite sufficient to show that the operation, in the hands of experienced men, has given most satisfactory results in relieving many hitherto irremediable deformities, and that the accidents which have followed are very few in number and the mortality slight.

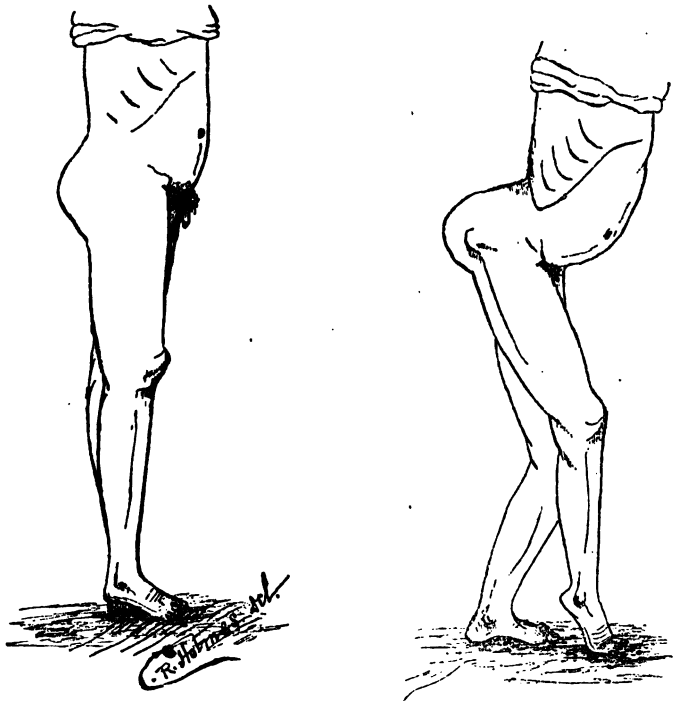
Admitting, as I do, these facts most fully, the perusal of such long lists of successful cases must, I feel, give rise to a false sense of security in the performance of osteotomy which will surely lead to unfortunate results in the hands of those who have less experience, and the history of the following cases is given for the purpose not only of illustrating the advantage of the procedure, but of presenting at the same time the dangers which are run and of emphasizing especially the necessity for minute attention to detail in operating, by which alone these can be avoided.

Osteotomy is divided by Poore into linear and cuneiform. The former is a simple section made either with a chisel (osteotome) or saw, while the latter removes a wedge-shaped piece of bone. Cuneiform osteotomy undoubtedly

possesses advantages in certain cases, but as my own experience is confined entirely to the former method, it is to this alone that my remarks will refer. My cases are given briefly in outline for the simple purpose of illustrating the treatment adopted, and without the intention of presenting any of the questions concerning the etiology of the affections described.

C. S., aged twenty-four; German; silver engraver by trade; presented himself at the Dispensary clinic of the Miami Medical College. His manner of walking was most ungainly and painful to see. The right femur was flexed at a right angle with the pelvis, with some adduction and was firmly anchylosed. By extreme curvature of the lumbar spine and throwing the body forward he was able to bring the toes of his foot strongly extended to the ground, and was then able to hobble about. When lying on his back on a table the spines of the lumbar vertebræ could only be made to touch its surface by bringing the thigh to a right angle with the body. There was absolutely no motion at the hip-joint, and the head of the femur, or rather what was left of it, for head and neck seemed to have disappeared, was dislocated upon the dorsum of the ilium. The circumference of the two legs was about the same, but the right thigh was considerably smaller than the left. He was induced to go to the Cincinnati Hospital, for the purpose of an operation to relieve his deformity. He entered the hospital April 1st, and gave the following history: At the age of two years he fell down stairs, and as a result of this accident, was confined to bed for a long time with some trouble about his hip, for which he wore some kind of mechanical appliance. After leaving his bed he first went about on crutches, and used them until the age of seven, when he dispensed with them, and has since been able to go about in the manner above described. On the outer aspect of the thigh there is an old cicatrix which probably resulted from an abscess, though he cannot give any account of it. From this history it is probable that the deformity was due to an old disease of the hip-joint, which had resulted in destruction of the head and neck of the femur, with dislocation and subsequent complete bony anchylosis. No fresh trouble has been lighted up since childhood. The drawings, for which I am indebted to Mr. Holmes, one of the *internes* of the Cincinnati Hospital,

give a very correct idea of the man's condition, and the improvement which followed the operation. April 7th the



femur was divided below the trochanters, the leg brought down parallel with the left, and a plaster bandage applied from the toes and carried up around the body so as to fix firmly the seat of fracture. The operation was performed by making an incision parallel to the long axis of the femur just large enough to admit the osteotome, which was then turned, and a transverse section of the bone made. The bone was very hard, and before it was cut through the instrument broke, leaving a piece wedged fast in the femur. To remove this, the incision in the soft parts was enlarged and the broken portion chiseled out. The section was then continued, and when nearly through the bone was broken, by the exercise of some force. As the limb was brought down to the table it was found that a sharp edge of bone attached to the upper fragment projected just

beneath the skin in very uncomfortable proximity to the femoral vessels.

To avoid perforation of the skin, which seemed inevitable, an incision was made over the most prominent part, and about an inch of the projecting bone cut off, and the wound at once closed with catgut. The original wound was partly closed, a drainage-tube being left in place, and both were then covered with cotton soaked in a bichloride solution. The plaster was so applied that the site of the first incision was left exposed, and for some hours there was a considerable discharge of bloody serum. The temperature only once reached 100.4°, and the pain complained of was never great. On May 9th the dressing was removed, both wounds were completely healed, and the union of the bone seemed firm, but as some pain was felt in both hip and knee a fresh plaster dressing was applied again, and allowed to remain until the 19th. The boy is now able to move about on crutches, but as yet cannot bear his weight on the straightened limb, which is only an inch and a half shorter than the left

In this case two mishaps occurred at the time of the operation, neither of which gave rise to any further trouble. The osteotome broke and the piece firmly wedged in the femur and broken off even with its surface had to be removed by enlarging the wound in the soft parts and cutting out a section of bone. This latter, however, was quite superficial, so the operation did not lose its character of a linear osteotomy. There was, however, more serious disturbance than would otherwise have been necessary. Willett speaks of this accident as frequently occurring, and says that the fragments of steel left in the bone give rise to no sort of trouble. The second mishap, the oblique fracture of the bone, leaving a sharp, projecting edge which threatened to perforate the skin, suggests the possibility of a like accident resulting in laceration of the femoral vessels as the limb is being straightened, especially in a case where there is great adduction present. The treatment adopted is, I think, the right one, namely, to cut down at once and remove the projecting edge. In a similar case which happened to Willett this was not done, and some months afterward there was considerable pain over the prominence left.

A further cause of trouble might arise from pressure on the femoral vein, and although no such case has been reported, the possibility of its occurrence must, I think, be admitted, and suggests the propriety of making the section as high up as possible, to thus diminish this danger by diminishing the resulting prominence of the lower end of the upper portion of bone.

I have had occasion in another case to make a section of the femur below the trochanters, in a girl aged thirteen, who, while bedridden from a necrosis of the left tibia, suffered a spontaneous dorsal dislocation of the right femur. The thigh was flexed at a right angle and was strongly adducted. Extreme lateral curvature had followed, and as the left knee was flexed at a right angle she lay in bed in a most distorted and pitiable condition, emaciated to the last degree from pain and from the constant discharge from the necrosed bone.

The femur was first straightened by section below the trochanters. This was found necessary, as section of the adductor tendons failed and manipulation for reduction of the dislocation was found entirely unavailing. The tibia was then at once operated on, and the necrosed bone removed, but as the disease extended so near the knee-joint and the shell of bone left was so slight, no attempt to straighten the limb was made for fear of fracture. Remarkable improvement in the general condition at once ensued, the femur quickly and firmly united, and after union there was limited motion at the position in which the head of the bone was lodged. At the end of eight months the child was well enough to travel to New York; at this time, however, repairs had not advanced sufficiently to enable her to stand on it, so the final result was not seen. I venture to predict from the result in this case that in old cases of dislocation of the femur, where the malposition renders the limb useless and where reduction is found impossible, that an osteotomy below the trochanter will offer a better chance for a useful leg than any of the operations which have been proposed, especially in the young, where you may expect a more or less complete joint will be formed for the head of the femur in its new position, and if good union is procured at the point of section a more serviceable limb will be obtained than is probable after an exsection of the head.

Mr. Adams has recently reported a case of exsection of the head of the femur in a boy aged eleven, who suffered from an unreduced dislocation on the dorsum which had occurred spontaneously during the course of an attack of fever. The result was very satisfactory. In my case the condition of the child was such that repair would have been hardly possible after such an operation.

A number of different operations have been performed for the correction of deformity at the hip-joint. I need only mention section of the neck by means of a narrow saw by Adams, and the same operation with the chisel by Golding Bird. The infra-trochanteric section of Gant, in which the object is to cut the femur below the insertion of the psoas magnus, and the partial section and fracture suggested by Reeves below the trochanter major. Adams's operation is not applicable where the head and neck have disappeared as the result of disease, or "where there is an exuberant deposit of new bone forming hard nodules or spiculæ around the femoral neck, itself entire."

Poore has analyzed the results which have been obtained. Sixty-eight sections through the neck gave six deaths and six failures, and sixty-four linear osteotomies below the trochanters six deaths and four failures; while thirty-three cuneiform osteotomies at the same position were followed by five deaths and two failures. He remarks, however, that these results exaggerate the danger, as twelve out of seventeen fatal cases occurred prior to 1877, when experience in the operation was quite limited. After the section the limb should be placed in a position of slight abduction if shortening is present, for the obliquity of the pelvis will afford some compensation by producing an apparent lengthening of the limb. The operation should not be performed until all inflammatory action is over, as in some cases a rekindling of the old trouble has led to a fatal result, and the possibility of this has been urged as an extra advantage for the line of section proposed by Gaut, as being further removed from the seat of disease.

The two following cases present examples of great deformity from bowleg occurring in two sisters, the trouble in both commencing after scarlet fever. The father and mother and six brothers and sisters are free from all deformity. These girls entered the hospital on the same day as the man whose history has just been given, and the

oldest was operated on at the same date, and the youngest a week later.

E. W., age sixteen; American; well-developed and muscular. Both legs markedly bowed; when standing erect the inner condyles are separated six inches. The legs are short in proportion to the thighs, and measure only twelve inches from the sole of the foot to the lower edge of the patella. The deformity began at the age of seven, after an attack of scarlet fever. She has been subject to fits. There is, she says, no spasm, but that she faints and then lies perfectly quiet. These attacks must, I think, be hysterical, as she is morose and very sensitive about her condition. The deformity seems due entirely to curvature of the tibiæ. At the upper epiphysial line the curve is so abrupt that it is almost angular. In the lower third there is also a decided incurving of both legs. The deformity is greatest in the left leg, and this is most marked in the upper portion. The toes point somewhat inward when the feet are held apart in standing.

Linear osteotomy was performed on both legs April 7th. The point selected for the section was at the most prominent part of the upper curve, and on the right was three inches below the lower edge of the patella, and on the left two inches. In each leg the fibula was cut first. The bones were very hard. The legs were at once completely straightened and put up in plaster of Paris. The course of the case was uneventful, and practically without fever. The bandage was removed May 9th, and the wounds found healed. Side splints were applied for a few days, and the girl was allowed to get up on crutches. The knees are now separated one and five-eighths inches. This is due largely to the curvature in the lower third. The girl is now on crutches, has lost her moroseness, and is highly gratified at her improved condition and appearance.

The following case, sister of the one just reported, illustrates the possible disastrous consequences of the operation:—

E. W., age fifteen, presented exactly the counterpart of her sister's condition, except that the degree of deformity was less, the condyles being separated five inches, and she was more active and less awkward. The deformity began at five years of age, after scarlet fever, from which she was confined to bed for a long time. The operation

was made April 14th, the left leg first attacked, and the fibula readily cut through. The section of the tibia was then commenced upon its anterior surface, about an inch below the tubercle, and after the bone had been partly cut through an attempt was made at fracture. This was unsuccessful, and the chisel was again resumed. Several times attempts were made to break the bone, as the section seemed far enough advanced to permit the fracture. The bone was very hard, and considerable force was required to drive the chisel. Suddenly free arterial hemorrhage occurred, and, as this continued, the external wound was enlarged, and search made for the bleeding vessel. The hemorrhage came from the outer side of the tibia, and was temporarily controlled by a sponge on a pair of forceps passed deeply into the wound, and further pressure made by a bandage around the limb. The section of the bones of the right leg was now made, and the limb readily straightened, and at once put up in plaster. The bleeding by this time had come through the bandage on the left leg. The bandage and sponge were therefore removed, and at once blood welled up freely. The wound was enlarged, and an extensive and deep dissection made in the muscles on the outer side of the tibia, but still the bleeding point could not be found, blood all the time coming up from the bottom of the wound. After persevering search a pair of hemostatic forceps was passed deeply by the side of the bone, and the tissues grasped at a point from which the most profuse bleeding came, and partly arrested it. The complete arrest was only affected after a second and third pair of forceps had been employed at points slightly separated. Further section of the bone was given up, and the wound dressed, with the forceps still in place, after having been thoroughly washed with a bichloride solution. It was hoped that the bone might be broken after some days, or, if that was not possible, the section could be resumed when the danger of hemorrhage was over.

The child passed a restless night, more, however, from pain caused by the plaster bandage on the right leg; this was relieved by loosening it over the foot and ankle.

In the morning her temperature was 102°, and it was necessary to draw her urine. The fever increased, and the following day the dressing was removed from the

wound in the left leg and some badly smelling pus escaped. The forceps were left in place until the 17th, and when removed slight bleeding occurred, and in the bite of one of them a mass of tissue resembling a short section of a vessel was found. There was now considerable suppuration. During the next few days some improvement occurred, and the patient took nourishment, which she had at first refused. On the 20th, some hemorrhage came on, but was controlled by pressure. The alarming symptoms, however, increased in severity, the temperature reached 104°, and a pocket of pus, which had formed on the outer side of the leg, was opened under ether in order to secure free drainage. This, however, did not avail, and the septic symptoms continued, and she died April 23d, nine days after the operation. The autopsy was made by Dr. Eichberg. "Some patches of broncho-pneumonia were found. The right leg at the seat of fracture was free from inflammatory action. The left leg contained an incision four inches long, at the bottom of which was a pus cavity, large enough to hold a walnut, filled with clotted blood. The tissues about were infiltrated with clotted blood and were broken down. Posteriorly extensive hemorrhagic infiltration had occurred and some edema."

The posterior tibial artery was found lying directly on the surface of the tibia, and was partly cut through. The vein was completely severed; this was probably due to the forceps, and the tissue spoken of above was a section of this vessel. The tibia itself was thickened transversely, which accounts for the manner in which it resisted the several attempts made to fracture it when the division had reached a point at which the bone of the opposite leg readily yielded. The hemorrhage which occurred at the time of the operation was due to a wound in the posterior tibial artery made by the osteotome, which had passed entirely through the bone. The artery at the level of the section is normally separated from the tibia only by a thin layer of muscle, and in this case the extreme hardness of the bone made it impossible to judge when the chisel had cut its way completely through the bone. Poore mentions a case in which he cut the anterior tibial artery, but gives no details showing how the hemorrhage was controlled. I have not been able to find mention of the occurrence of the accident I have reported.

In this connection the directions given by Poore I regard as of great importance. "It is," he says, "best to begin to divide from the crest inward," and "care should be taken that the osteotome does not extend beyond the outer border of the crest, as the anterior tibial artery may be nearer to the bone than normal, and is liable to be divided. I had this accident happen in my first case. After the bone has been divided through two thirds of its thickness the section can be completed by fracture." By following this advice the osteotome will be constantly directed away from the vessel, and it will be well to try to avoid cutting through the outer-most layer of bone and make the section more complete on the inner side. Great care should be exercised to avoid complete perforation of the posterior shell at any point, and for this object the chisel should be as thin as consistent with strength, for the more wedge-shaped the cutting-instrument is the greater will be the resistance, and the harder it will be to appreciate when the section is complete and the chisel edge has passed entirely through the bone.

Time prevents me from presenting the question of osteotomy in correcting the deformity due to knock-knee. I have had but a single case, the ultimate result of which was entirely satisfactory. In this case the elongated inner condyle was cut through by a saw, as proposed by Ogston. In another case recently operated on by Dr. Connor, section of the femur was made above the condyles. The child is now running about. Professional opinion seems to have settled upon this last operation as the one best suited to the majority of these cases, and it is the one I should myself prefer.

My purpose in presenting the histories just recited has been to bring the subject of osteotomy before the Society in the hope of eliciting a free expression of opinion on the many important and interesting questions connected with this subject, which time has prevented me from even alluding to; and in conclusion I will only add that, while advocating most strongly the operation in appropriate cases, I deprecate emphatically the idea that it is entirely unattended with danger, and, on the contrary, would emphasize the fact that, without extreme care and the skill which experience alone gives, it is liable to be followed by most disastrous results. Not only does the section of

bone demand the utmost care, but the whole operation should be so performed as to protect the patient from the danger of suppuration and septicemia, if accidents such as I have recorded should supervene. I will venture to assert that there are few operations in surgery in which success depends so much upon personal experience as will be found to be the case in the procedure under discussion.

DISCUSSION.

DR. CONNER: The paper is certainly a very interesting one, and particularly that part calling attention to certain accidents which may happen to any of us. Three of the doctor's cases I had the pleasure of seeing, and I must say that I have never seen operations better performed, and which gave better results. I was away at the time the accident happened, which unfortunately resulted in the death of his patient from septicemia. This accident was the rupture of the posterior tibial artery. It is a matter of great interest to us to know just how this rupture may be produced. The subject of osteotomy is a subject of very wide range. I have myself operated in several cases of children. Forcible straightening of the knee might possibly have been adopted, but I am certain this operation was better for the patient than would have been forcible straightening. I have seen bad results of the forcible straightening of the knee occur, inflammation followed by sloughing and other external injuries.

In osteotomy we run very little danger, and in a vast majority of cases we have favorable results.

The case the doctor presented where the femur was broken, was a very interesting case. I have been particularly well pleased to see how excellently well the man has recovered. This case has been to me one of both interest and instruction.

The question whether the saw or the chisel should be used is one in which we may take considerable interest. With the use of the saw these accidents of rupturing the artery are much less likely to occur than when we are

using the chisel. The saw also answers the purpose better than the chisel. We can control and guide the saw better than we can control and guide the chisel. As regards the different modes, one must, however, depend upon the condition of the case. Where it stands out at an extreme angle from the body it is impossible to get at the neck of the bone. Whether we shall divide above the trochanters also depends upon each individual case. In the case I have just referred to, I divided below the greater and above the smaller trochanter, and the case recovered with movable joint, but in less than two years firm anchylosis had taken place. We should not waste time in the vain hope of the recovery of the case with movable joint.

I am inclined to think that in these cases it is not better to cut from behind forward. Had the division been made from in front backwards, the accident of breaking up and splintering part of the bone into sharp fragments would not have occurred, as that portion of the bone liable to splintering would have been divided by the chisel. Or if there had been any splintering it would have been of the posterior rather than the anterior portion.

The application of forcible straightening in knock-knees demands considerable attention and time. I have one case under observation where quite satisfactory results have been secured, but it was by eighteen months' or two years' attention on the part of the attending surgeons. But it is certainly not more satisfactory than the case the doctor has shown us the diagram of.

An accident which happened to me, will not, I am sure, happen again. I brought the limbs down in position and put them up in plaster. But the left limb was dressed too loosely and so permitted the sliding of the upper fragment down on the lower, and there is a decided shortening of the limb. Had I taken more pains in fastening, that accident would not have occurred.

In no one case have I been compelled to take off the dressings from beginning to end. The cases give very little trouble after the operation is performed. The operation has been performed an immense number of times, and the mortality has been exceedingly light.

I hope that before long, having removed all the objections which lie against this operation, we may succeed in almost every case in getting absolutely complete suc-

cess. When made with care, and through small incisions, they quickly close and in the great majority of cases without untoward results.

Dr. HERRICK, of Cleveland: I would like to express my pleasure at the report of the cases mentioned, and also to express some of my own reflections. I have never yet personally performed the operation, but I have witnessed the operation performed by Dr. Daniel Brainerd. The operation, as you must observe, does not contemplate the restoration of motion to the limb. It is made entirely for the correction of deformities. The suggestions I have to make will be chiefly in regard to the dangers which may arise. These dangers are chiefly from septicemia and from hemorrhage, and in my opinion they are not so inconsiderable. I speak on that subject from what I have seen of the operations of Dr. Brainerd. He has devised a system of chisels with handles and with cutting edges or sawing edges, so as to divide partially the bones, and he then completes the section of the bone by breaking. He made to some extent a special investigation of this subject, and left a very full report of his work.

As to the inquiry as to making the section of the bone, it would seem practicable to make only a partial section with the chisel or saw, and then complete it by breaking through the remainder. It would seem to me that in knock-knees, the conditions permitting, the incision should be made in the direction towards which the bone is to be bent, so as to favor the separation of the bone and also to allow the open part to be filled in with new matter.

I am very glad to express my pleasure at the report of the cases as given here.

Dr. RANSOHOFF, of Cincinnati: In what class of cases of knock-knees the operation of osteotomy should be performed, I think there can be no question at all. That osteotomy is justifiable in every case is not for a moment advocated. Almost all cases of bow-legs can be corrected without resorting to an operation, which I am sure is not entirely devoid of danger. In the case presented here by the doctor, there was a divergence of only six inches, which was reduced by the operation to two inches. Now could not an equal improvement have been made in this case without resorting to an operation? In the case of dis-

location of the hip, osteotomy is a thoroughly justifiable operation. In bow-legs the deformity is one of inconvenience and does not warrant an operation.

Dr. RYAN, of Cincinnati: I wish only to say a word about the time when this operation should be performed. The doctor who has just spoken seems to think it might be corrected by some other means. But in this case reported here the bones were just about as hard as bones could be. No appliance or dressing could have done anything towards correcting this deformity. I think that in the case of children this operation should not be performed under four years. There were some of these cases of children treated by the plaster bandage which took eighteen months to correct.

Dr. DANDRIDGE: Dr. Ryan has anticipated me in answering some of the criticisms which have been made, particularly those by Dr. Ransohoff.

The bones in my case were so exceedingly hard that there was no possible prospect of any improvement by mere mechanical appliances. I entirely agree with what has been said as to the impropriety of osteotomy on young children, and it is only after the bones have become hard so that there is no possibility of improvement by mechanical means that this operation should be performed.

Quite a number of operations have been suggested for knock-knees; forcible straightening of the limb, the operation above the condyle, and the operation which involves the opening of the joint. The forcible straightening of the limb has not given as good results as the operation of osteotomy. The operation for knock-knee in which the joint is opened consists in making an incision into the joint with a narrow-bladed knife, then passing the saw along the blade and cutting through the condyle.

In the case which I operated on in this way, the result was satisfactory. Dr. Ryan saw the patient and assisted me in the after treatment. But in this case I had some suppuration in the tissues of the thigh, and there was undoubted evidence of septicemia, which gave rise to anxiety about the result. This operation is less free from danger than section of the femur above the condyle, and this latter is the one I shall use on any case that may fall into my hands. Osteotomy should not be used on young

children except in such cases where the condition of the child is such that mechanical means cannot be employed. It is all very well to say you can correct the deformity without resorting to an operation, but this may require from twelve to eighteen months or even two years. A large majority of these cases occur in the children of parents who are not able to afford much expense, and in such cases the operation is entirely justifiable, in my opinion.

In regard to the propriety of partial section of the bone, I think this practically occurs in every case. The bone is never cut entirely through by the chisel. In one of the hip joint cases the bone was fractured, and a sharp fragment appeared in uncomfortable proximity to the artery.

We should avoid if possible the splintering of the shell of bone on the side on which the vessels lie. In regard to the dressings, all I used was simply plaster applied in the usual way. It is, I think, better to use a firm, straight splint bound to the limb with plaster rollers. In cases of knock-knee by the use of such a splint the correction of the deformity would be more certain and there would be less danger of such an accident as we have heard reported, in which the dressings became too loose. I think the case reported calls our attention to a very important matter, and that is the propriety of examining the limb after a few days and so correct, if necessary, any sliding or other displacement that may occur before union becomes firm.

URETHRAL CALCULI.

BY JOSEPH RANSOHOFF, M. D., F. R C. S., ENG.

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The clinical pictures presented by foreign bodies in the male urethra are so varied that every case is likely to display special features of interest which will vary according to the form, seat of lodgment and source of the foreign body. In most cases this is a calculus which has descended from the bladder or kidneys, or in rarer cases, such as prostatic disease or stricturc, has developed in loco. In the vast majority of cases the stone is single. In the following case, for the "previous history" of which I am indebted to Dr. J. A. Brown, of Germantown, two stones were found, which varied as much in size as in the symptoms to which they gave rise.

J.L., aged 37, farmer, had always enjoyed good health until sixteen years ago, when he suddenly suffered from severe pain in the urethra, associated with hemorrhage and retention of urine, for the relief of which the catheter was used. After continuing for a few weeks these symptoms subsided, and the patient was enabled to return to his work. Since this attack he has always been in good health except on four or five occasions, when a condition such as that just described occurred. In the middle of January a similar attack supervened, for the relief of which the patient himself resorted to a soft catheter. Only because febrile complications and rigors manifested themselves was Dr. Brown sent for. He recognized a swelling of the size of an orange just behind the peno-scrotal angle, and when he introduced a silver catheter into the urethra, a calculus was

distinctly recognized. All efforts to cause the expulsion of the foreign body were futile; attempts to extract it were equally unsuccessful. It was therefore pushed backward towards the bladder.

I saw the patient for the first time on the 11th of February. His temperature in the evening was 104°, and his pulse 122°. He suffered excruciating pain, and could only urinate by means of the smallest Nelaton catheter. Behind the peno-scrotal angle the tumor already mentioned was recognized. Notwithstanding its tenseness, a deep fluctuation was discernible. This was unquestionably a peri-urethral abscess, the result of an impacted calculus. It impeded the passage of a solid instrument, and if opened, a thorough exploration of the urethra and bladder would be possible. A free incision was therefore made and a half-teacupful of matter evacuated. A large sound could at once be passed into the deeper portion of the urethra, where, just beyond the triangular ligament, it encountered an object which imparted the peculiar grating sensation produced by contact with the calculus. With the finger in the rectum a hard body of the size of a walnut could be felt underneath the anterior wall, just within the anus. When this was pressed upon from within, it formed a distinct prominence in the perineum. Above the prominence made by the stone the prostate could be felt of normal size and consistence.

After the abscess was opened, the febrile symptoms subsided so rapidly that on the 18th of September the stone could be removed. I chose for this purpose the median operation. Although this case was admirably suited for cutting in the gripe, I preferred the use of the lithotomy staff. When the membranous portion of the urethra was opened, the two calculi, which I beg to present, were removed. The larger stone, weighing 265 grains, presents a smooth, rounded surface, is somewhat egg-shaped, and measures 1¼ inches in length, by 1 inch in width and thickness. On section, it presents a central cavity and a number of concentric rings. According to Prof. Fennel it is composed principally of the phosphate of lime, traces of the oxalate of lime and phosphate of magnesium being likewise present. The second stone is very much smaller. It weighs five grains, and presents a very uneven surface. From

its appearance it evidently resulted from the confluence of four or five smaller stones. Although the bladder was carefully examined through the perineal wound, no other calculus was found. On the second day after the operation, the patient passed his urine per *vias naturales*, and he progressed rapidly and uninterruptedly toward convalescence.

The case which I have taken the liberty to report presents certain features of interest. A glance at the two calculi will show that it was almost impossible for the large stone to have become impacted at the site of the abscess, which was opened a week before the formal operation. It is likewise evident that the smaller and more roughened stone was solely responsible for the severe symptoms detailed in the clinical history. Just how long the larger calculus had been retained in the membranous portion of the urethra cannot be determined. According to Dr. Brown and a distinguished surgeon of Dayton, it was found in the bladder two years before the final operation. If this be accepted, it developed with marvelous rapidity, since a stone of half its dimensions could hardly have been passed through the prostatic portion of the urethra. Nevertheless, even very large calculi are occasionally expelled from the bladder. Thus, J.S.Dunning (*Journal of the American Medical Association*, March 21, 1885) reports the case of a man 62 years of age in whom a stone as large as a hickory nut was expelled from the bladder and lodged behind the glans. Urinary fistulæ developed behind the stone, which was removed seven months after its impaction. When crushed it weighed 300 grains. On the other hand it seems more probable that the larger calculus presented to-day was lodged in the membranous portion for a considerable number of years, gradually receiving new deposits. Indeed there is no limit to the time during which a stone may remain in the urethra without producing severe symptoms. Fleury (*Bull. de la Soc. de Chir.*, vii, 631) reports a case of urethral calculus, in the spongy portion, of twenty years' growth. He had detected the stone fifteen years before the operation, which was rendered imperative by the retention of urine. In 1862 Mr. Haynes Walton presented a stone to the Pathological Society of London. It was removed from the perineum of a man who had probably carried it for fifty years without suffering greatly from its presence.

It finally produced retention and extravasation of urine, but its removal failed to save the life of the patient. It measured 2¼ inches by 1 inch. (Trans. Path. Soc., Vol. xiii, 1862.) From the specimen presented and the cases briefly referred to, it will be seen that urethral calculi sometimes assume enormous proportions, either by dilatation of the urethra or the formation of a diverticulum. Voillemier saw one the size of a hen's egg. In the *Indian Medical Gazette* for 1883 (*Journal of American Medical Association*, 1883, p. 145), is reported the case of a calculus lodged at the peno-scrotal angle, forming a tumor as large as an orange. It weighed 980 grains. In 1878, R. Parker removed a prostatic calculus weighing 1⅝ ounces, by rectal incision. A second, but smaller, calculus was found. In this case a slight recto-urethral fistula remained. (*British Medical Journal*, 1878, Vol. i, p. 85.)

The case presented likewise impresses the fact that urethral calculi are not infrequently multiple, being associated with one or more stones in either the urethra or bladder. Civiale reports the case of a man from whom 220 calculi were extracted from a pouch in the perineum. In the museum of St. Bartholomew Hospital is a part of 149 calculi taken from the middle of the spongy portion of the urethra.

It is particularly in children that urethral calculi present certain features of interest, since in them the thin impaction is often followed by retention and infiltration of urine. When these conditions exist, the usual causes of retention in adults, stricture and prostatic enlargement, can be excluded, and only trauma or impaction of calculus remain as exciting causes. Of 14 cases of impacted urethral calculus collected by Gault in 1872, only 3 occurred in adults. Of the 11 which occurred in children, eight were under 5 years of age, and in only one of the 11 cases was the stone lodged in the pendulous portion of the urethra, where it could be removed with the forceps. In the other ten it was impacted in the perineum, and in five of these urinary infiltration was present. In these ten the stone was removed by section, and in two of the cases in which infiltration existed, death followed.

The treatment of urethral calculi presents but few points worthy of discussion, since it is evident that their extraction is

always indicated. When they are situated in the anterior portion of the urethra, where they can be reached with forceps or scoop, they are to be removed by either of these methods. It should be remembered, however, that extensive manipulation is fraught with danger, since the impaction of a calculus in the urethra and efforts to remove it have been followed by the development of stricture (Sir E. Home). Although the crushing of urethral calculi was already described by Albucasis as a formal operation, it has never, for obvious reasons, been generally adopted by surgeons. The dangers attending it are considered of sufficient gravity to exclude it from recognized methods of treatment, except in stones that are very friable. When the stone is small and situated in the deeper portion of the urethra, it can often, by means of a large steel sound, be returned to the bladder, whence it should at once be removed by litholopaxy. By far the safest method of treating urethral calculi is that by urethrotomy, and it should be resorted to as soon as the simpler methods already alluded to have been tried without success. The dangers of the operation *per se* are scarcely worth considering, since important parts are not divided. The only unpleasant consequences that occasionally follow it are urinary infiltration and fistula. Neither of these complications is to be feared, however, if the operation be made early, and if the precaution be taken to use the catheter at regular intervals during the first three or four days following it.

PELVIC HEMATOCELE.

BY C. A. L. REED, M. D., HAMILTON, O.,

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The expectant treatment of the early stages of extra-peritoneal hematocele appears to be based upon the idea that the clot and the resistant peritoneum comprise the best available means for controlling the initial hemorrhage, and upon the further idea that the thrombus having once formed is more liable to become either absorbed or organized (?) than to undergo suppuration. These may be plausible doctrines, and I am not prepared to say that comprehensive statistics will fail to support them. We do know, however, both from observation and research, that in many instances the circulatory force back of the extravasation more than overcomes the resistant power of the peritoneum; indeed, those who have done Thomas' operation of laparo elytrotomy, upon either the living or the dead subject, know that little force is required to raise the peritoneum from the pelvic wall. The enormous dimensions of these thrombi, and their increase in size after remaining stationary for a considerable time, prove, in many cases, the incapacity of the peritoneum and the already extravasated blood to spontaneously arrest the extravasation and prevent the exsanguination of the patient. Leaving out of consideration for the present the secondary changes in the clot, and the dangers arising therefrom, and paying attention only to the dangerous loss of blood and the intense suffering, the question arises are we not justified in resorting tc some more radical means of arresting the hemorrhage than those

which have characterized the treatment of this condition since 1847, when these conditions were first described? It is true that the suggestion is at once confronted with the fact that it is next to impossible to detect the exact source of the hemorrhage. The analysis of a large number of cases shows, however, that, in the majority of instances, the torn vessels are located either in the pampiniform plexus or the bulb of the ovary. This being the fact, would it not be safe to undertake, by abdominal section, the ligation of the vessels supplying these points, just as is practically done in the extirpation of the tubes and ovaries? The large percentage of recoveries shown us by Tait, in cases demanding most radical surgery of the tubes and adjacent parts, relieves the suggestion of its apparent recklessness. My own limited experience has not afforded me an opportunity of putting this suggestion into practice. The only case that I ever saw early enough to follow the proposed line of practice, was the very case which, from its unsatisfactory progress under the expectant plan of treatment, induced me to study the expediency of the opposite course. This case is as follows:

CASE I. Mrs. P., aged 25, married, had given birth to five children in rapid succession. I was called hastily to see her, June 17, 1882, and found her suffering intense mental anguish over the impending death of her mother under almost tragic circumstances. She told me that she had been menstruating for a couple of days, when the great affliction overtook her family. She was seized with a chill, whereupon the flow suddenly stopped, the cessation being accompanied with, and followed by, intense pelvic distress, which she located chiefly on the right side. She had both vesical and rectal tenesmus, and was seized every few minutes with intense cramps, which she described as being of the expulsive variety. Her features were pallid, her respiration hurried, her pulse 120, and easily compressible, and her extremities were cold. This aggregation of symptoms was suggestive of internal hemorrhage. This view was confirmed by physical examination. I found intense tenderness over the right iliac region, and vaginal exploration revealed the presence of a tumor lying to the right of the uterus, and displacing that organ to the left. I should add also that the womb was somewhat prolapsed

and fixed in its position. I now made my diagnosis: Extraperitoneal hematocele.

I desire to state, before passing to the treatment, that during my subsequent attendance I learned additional facts of etiological significance: She had not only had several children in rapid succession, but during her entire married life she had been subjected to inordinate sexual indulgence to gratify the lust of her husband; she had had an attack of puerperal fever with her third child, and she related a history, indicating that since the birth of her first child she had had more or less diffuse cellulitis. You see, therefore, the condition of the entire pelvic viscera was ripe for the production of this extensive extravasation, resulting, primarily, from mental shock, and, secondarily, from suppression of the menstrual flow.

The treatment adopted was primarily restorative: Warm applications to the extremities, cold compress over the right iliac region, and stimulants were resorted to. Ergotin, hypodermically, was empirically given as a hemostatic. A persistence in these measures resulted in the restoration of my patient; so much so that on the third day following, contrary to my orders, she rode in a carriage to attend the obsequies of her mother, who had died in the meantime. This exercise did not produce the depressing effects which I had expected, but the patient was immediately placed in the recumbent posture, and kept there. Anodynes and suppuratives were given, reliance being placed on nature to either absorb the clot or organize it. I recognized that evacuation of the clot was in conflict with authority, and, although the success of a former case strongly impelled me to the use of the knife, I desisted out of deference to the superior wisdom of our popular writers. The case continued without special event until the 18th of July, a little over a month after the inception of the difficulty. During this time I imagined that the tumor became somewhat smaller in size, and that the uterus regained to an extent its mobility, but in both these particulars the change, if any, was so slight as to be scarcely worthy of note. July 18 another rigoro ccurred, and all the alarming symptoms, associated with the beginning of the case, recurred. I saw that my case had arrived at that stage, when, as Thomas says with reference to operative procedure, "further delaywas criminal." The tumor,

which had formerly been entirely within the true pelvis, could now be felt above the brim, extending up to the ant. superior spinous process of the ilium.

The next day, July 19, with the assistance of Dr. Strecker, I evacuated the cavity. I simply made a free incision through the vagina with the bistoury into the presenting part of tumor, when a quantity of dark, coagulated blood, in excess of seven pints, escaped. Many of the coagula presented a buffy appearance, showing that suppuration had begun. A limited quantity of fresh arterial blood also escaped. The incision being free, no drainage symptoms, attributable to the anesthetic (chloroform), no unpleasant tube was at the time inserted. Aside from some unpleasant results followed the operation. The next day the relief was most pronounced, and a speedy convalescence was apparently promised.

Aug. 2. The discharge, which had been free up to this time, stopped, and a severe rigor ensued. An examination revealed the accumulation of pus in the site of the hematocele. The old incision was reopened and a drainage tube inserted. About two ounces of dark sanious pus escaped at this operation. The drainage tube was continued several days, when the discharge disappeared.

Aug. 10. Patient has been troubled intensely with tympanites. The area of dullness is now discovered on the *left* side. Pulse and temperature normal.

Aug. 12. Dr. Ellis gave ether while I passed the needle of an aspirator into the area of dullness. The result was negative. The needle was now passed into the colon, relieving the abdominal distention and overcoming the tympanites.

Aug. 20. Menstruation has reappeared, the flow being excessive, but not accompanied with pain.

Aug. 30. Patient is up. There is no more tenderness in the right iliac region. The uterus is normal in position and mobility.

A short time subsequent to this last date the patient had another attack of tympanites unaccompanied by fever. Fearing a recurrence of the original trouble, I searched in vain for a local cause of the abdominal distention, which was intense indeed. At this juncture I invited Dr. Millikin to see the case with me.

After making a careful examination, he, too, failed to find any recurrence of the accumulation and advised treatment of the case medically. A terebinthine emulsion was given, and the tympanites rapidly disappeared.

This patient died from metastatic abscess of the lung three months after the complete subsidence of all traces of the hematocele.

If now we glance at this case we shall find that it is an extremely unsatisfactory one. The extravasation was great from the start, and received fresh accessions with the recurrence of each menstrual period; the consequent general debility was extreme; the septic trouble that ensued from the suppuration threatened the life of the patient from another source; and although, as a result of the perhaps too tardy interference, she recovered from the local trouble, she did so but to die from still remoter results of the septic trouble that had become established. This case is certainly not an exceptional one, but I believe presents the average history of the class to which it belongs. I humbly urge that as against such a history any rational suggestion, however at variance with established tenets of practice, is entitled to respectful consideration.

The treatment of these cases in their later stages has passed through several degrees of evolution and is to-day in happy contrast with the conservatism we have been reviewing. Goodell, and, subsequently, Tait, attached the sac of a suppurating hematocele to the margins of an abdominal incision, evacuated and drained the cavity. In Goodell's first case he pursued the practice since adopted by Volkmann, in cases of abscess of the liver—i. e. he attached the sac to the margins of the abdominal incision and permitted it to become adherent to the parietal peritoneum before he attacked the contents. The principle was precisely the same as that which underlies what is now known as Tait's operation, but the refined *technique* of the Birmingham surgeon has established beyond all question the feasibility of completing the operation at a single sitting. This is, perhaps, our latest and most decided advance in the treatment of these cases in their later stages. There are, however, other expedients, and, when we take into consideration the rank and file of the

profession, they are more often resorted to than the more scientific procedure of Tait.

Vaginal puncture, by means of the bistoury, has been in more or less favor since the days of Nelaton and Malgaigne. There is, however, great liability of wounding some of the vessels above the vault of the vagina and occasioning an increased loss of blood, which the patient at this juncture can ill afford. This means permits of the escape of only the fluid portion of the mass, leaving the more solid elements, the coagula, to remain and undergo subsequent suppuration. It is difficult to maintain drainage through vaginal incision. Emmet used candle wicking to maintain the patency of the opening, but the rigid laws of antiseptics would hardly allow the use of such an agent. It is next to impossible to retain a drainage tube, and when once retained the proceeding is fraught with danger. If the tube is a short one it is quite as liable to drain the vaginal secretions into the sac as it is to drain the contents of the sac into the vagina; if it is a long one it should be long enough for the distal end to be placed in a bucket of water or the cavity may become contaminated from atmospheric sources.

Vaginal puncture by the aspirator may be valuable for diagnostic purposes, but must be recognized as inadequate when employed for the purpose of effecting a cure. It is, much more than free incision, incapable of removing the coagulum. It is true the cavity may be washed out by means of the aspirator, but it is a proceeding fraught with decided danger; the force back of a jet thrown from an aspirator needle cannot be easily estimated and may do damage. There is great liability of missing the seat of disease when the needle is used. This is a common experience with all of us who have employed exploratory puncture not only in cases of hematocele, but in pelvic abscess. There is danger of exciting cellulitis by repeated puncture. There is much of fiction in the common remark that there is no danger in puncture by the needle of an aspirator.

The operation by abdominal section, when practicable at all, places all the conditions under complete control of the operator. It permits of thorough drainage under aseptic circumstances. It can be performed with the loss of a minimum amount of blood,

which is indeed a great consideration for a patient that may be already nearly exsanguinated, and, finally, recovery from this method takes place more quickly than by vaginal puncture.

There is a disposition to look upon the method employed by Goodell and Tait as being applicable to all cases of intra-pelvic accumulations. In those cases of hematocele in which the sac is not large, and lies low down in the pelvis, it would be manifestly out of the question to stitch it fast to the margins of the abdominal incision; while in those cases in which the accumulation extends well above the brim, the operation is quite feasible.

In that class of cases in which the accumulation is comparatively small, and occupies a position beneath one or both the folds of the broad ligament, another operation may be employed with advantage. I can best illustrate its practicability by the recital of the following case:

CASE II. Mrs. W., aged 34, came under the care of Dr. E. L. Wood, of Clanson, October, 1884. She had had four children since her marriage, which had occurred eight years previously. She had weaned her child in May previous; she menstruated from that time till August, when she caught cold, which, in connection with great mental worry occasioned by domestic infelicity, caused a sudden suppression of her menstruation in the second day of the flow. Dr. Wood's predecessor in the case was called in to relieve a most violent pain in the right iliac region, associated with faintness, depression of the pulse and other evidences of internal hemorrhage. She rallied somewhat from this condition, but the pain in her pelvis still continued, and she became conscious of tumefaction in the seat of trouble. In September she had no external evidences of menstruation, but the tumefaction just mentioned increased and with it was an aggravation of all the subjective phenomena of the case. She now became alarmed, and getting, as she claimed, neither relief nor an intelligent explanation from her attendant, she called Dr. Wood. He at once, after physical exploration, recognized the nature of the trouble, which he pronounced extra-peritoneal hematocele. He advised a continuance of the expectant treatment, which was persisted in for about ten days, when the patient had a rigor, followed by a temperature of 102° F. The exact condition of

the patient was recognized; the importance of operative interference was presented to her, and her consent was obtained to the adoption of any expedient that Dr. Wood and myself might deem proper.

I saw the patient the next day (October 18) for the first time. Temperature 100.5. There was tumefaction and tenderness over the right iliac fossa. The uterus was crowded to the left and was anteverted. The use of the stethoscope revealed the absence of intestinal gurgling to a point to the left of the median line, and above the ant. sup. sp. proc. of the ilium. There was, of course, dullness in percussion over the entire area. By bimanual manipulation I thought I could discover a point of fluctuation presenting anteriorly midway along Poupart's ligament.

October 20, the patient was placed under the A. C. E. mixture, and an incision was made along the line of Poupart's ligament for a distance of two inches, beginning an inch from the symphysis. The superficial epigastric artery was double ligated before it was divided. As there was but little adipose, the peritoneum was readily reached, and was elevated by the fingers to a depth of at least an inch and a half, when the connective tissue forming an additional investment of the fluctuating mass was reached. An aspirator was now used, and about three pints of broken down clots were removed. The sac was now freely opened and thoroughly washed out with a two per cent. solution of carbolic acid. A double drainage tube was inserted and left in position. Two superficial stitches were put in the incision.

Dr. Wood furnishes me the subsequent history of the case as follows:

"There was immediate relief of the pain. The temperature was down to normal next morning. The sac was washed out as directed twice daily for the next three days, when the returning water ceased to have a bloody tinge. The next day the tube was taken out. The lips of the wound had healed by first intention, except where kept apart by the tube. The patient was about the room on the twelfth day, and, so far as known, has since had no return of her trouble."

This case might easily serve as a text for more extended observations on the advantages and disadvantages of the opera-

tion which it illustrates, but I have already written more than I intended. I submit my paper to you, emphasizing the two suggestions which it contains, viz.:

I. The demands of science and humanity call for some means of controlling the initial hemorrhage in these cases.

II. The operation by incision along Poupart's ligament, and the elevation of the peritoneum, is a valuable procedure in cases in which the accumulation lies beneath the broad ligament.

DISCUSSION.

DR. HERRICK, of Cleveland: The paper just read is of such value as to merit a full consideration by this association. Besides, those cases are not so rare but that any of us may some day meet one of those cases of hematocele or of blood tumor in the pelvic cavity from the ovarian artery, of a pint, a quart or more in capacity. And as to the treatment to be adopted—it is not necessary to go into the details of the symptoms, but the treatment is no trivial matter.

A large number of authorities advise the letting of these coagula alone, allowing nature to absorb the coagula. The gentleman who read the paper refers to Dr. Goodell and Dr. Tait as holding opinions opposed to this practice. The Dr. himself, I suppose, also advocates that the blood should be evacuated That is the point. There is a large accumulation of blood in the pelvic cavity. Should it be opened and the blood allowed to escape, and the entrance of the air permitted, and decomposition and putrefaction take place? The gentleman would say no, cleanse the cavity. Even then, with the most extreme antiseptic precautions, is it advisable to open this cavity? We often have effusions of blood into cavities where no such evacuation is rendered necessary; where nature absorbs the coagula. We have such effusions in the brain and we never think of puncturing for such effusions. I can recall in my experience three distinct cases which were quite as well marked as those the gentleman presented here. I have not evacuated the cavity and in every case there has been complete recovery after due process of time, and my observation is decidedly against any opera-

tion for evacuation. I do believe that nature takes care of that quite as well or better than we can. I think the danger is decidedly on the side of opening the cavity. I think so from the observations I have made. I had three cases. I recall one who has borne two children and is in perfect health. I am glad to open the discussion on this point and will be glad to hear the opinions of other gentlemen, as this paper is to go out advocating the opening of these cavities.

DR. KINSMAN, of Columbus: I think that all papers presented here should at least have the compliment paid of discussion and as far as this case is concerned, a pelvic hematocele, we all recognize this: When there is an escape of blood, if it is coagulated and hard and without any growth, those are a class of cases that you can just as well leave to nature as not. If they harden rapidly it shows that coagulation has occurred. It shows that the blood is no longer escaping. But in case that hematocele shall afterwards soften, as is often the case, and then that softening is followed by a chill, there is no question what our course ought to be. I have had two or three cases in which the hematocele has become hard, never softened and never became large. These were left to nature. I have seen six other cases in which the hematocele would soften and be accompanied by fever and I have never seen one do well until the tumor was evacuated. I have evacuated three through the vagina and done it with a knife. Whenever the patient shows fever and begins to show that there is septicemia coming on, I would operate at once. Discharge the mass that is affecting the body and that is an end of it. The Doctor's case was an interesting one, and there is a point that we ought always to keep in view.

DR. CORSON, of Middletown: It occurs to my mind, after hearing the remarks made on this subject, that the better way would be always to operate at an early period before sepsis takes place and before embolism takes place. Remove the difficulty. Undoubtedly that is the best way. If we have to perform an operation, the time is when the patient is in a good condition; while the patient is yet in a state that will bear an operation, not wait until the system becomes poisoned. Take it in time. Remove the difficulty. The argument made by the gentleman shows

certainly in favor of an operation. Again the argument is used by good authority that we must not open the abdominal cavity in any case. Stand still and see the patient swell up. Leave it all to nature. Some cases undoubtedly have occasionally got well, but hundreds of cases have died that have been left to nature. The abdominal cavity is opened, and that almost daily, and we see the patients get well. So in this case of abdominal hematocele, open the cavity and remove the blood and if need be secure the vessels. What treatment can be better? Adopt it and you get rid of the poison in the system.

Absorption may take place in some instances but in the great majority of cases, if I mistake not, the patients have died. Frequently the case was misunderstood and it was not apparent until the post-mortem revealed the difficulty. I say, undoubtedly, I should not hesitate a moment to open the abdominal cavity, remove the blood and wash the cavity out.

DR. REED, of Mansfield: I cannot pass this report without adding a little testimony to it and to these facts. I remember very distinctly one of the first cases of this kind that ever occurred to me; it was while I was in one of the Philadelphia Hospitals. There was an opposition to performing an operation by my senior. The case was left to nature, and apparently a clot had formed and all was going on towards a favorable termination. But suddenly the clot broke down and it became necessary to evacuate the cavity containing the pus and we came very near losing the patient, whereas, I believe if an early operation had been resorted to it would have saved the patient much suffering and this extreme danger. It was not my fortune to meet another of these cases until about two years ago. One came to me from another practitioner. She came to me for my opinion. She was much opposed to having any operation performed. I allowed the case to go on by way of nature. A clot had formed and the patient appeared to get better. It had passed out of my notice when I was condemned by another practitioner for allowing the case to go on in this way. The patient came very near dying. He was obliged to evacuate the cavity, and I was censured for not evacuating it. These two cases have demonstrated to me that if another case of that kind comes under my observation I will operate an once.

In the case of an ovarian tumor we do not hesitate to operate, and with the help we get from antiseptics I would think we were not doing our duty to our patients if we did not perform the operation and evacuate the blood.

Dr. A. DUNLAP, of Springfield: As I understand the paper, it advocates the opening of the abdominal cavity for the purpose of evacuating the clot of blood, and also for the tying of the blood-vessels. It has been stated that there is no more difficulty or danger in these cases of pelvic hematocele, in opening the cavity, than there is in opening the cavity in the case of an ovarian tumor. Now we must recollect that when we open the abdominal cavity in the case of an ovarian tumor, we expect the wound to close by first intention. If you cut the uterus you expect the same thing. If you cut an intestine you certainly expect the cut to heal by first intention. You cannot safely leave the abdominal cavity to suppurate in a condition in which you are almost certain to have sepsis. You must close the cavity so that the suppuration shall be discharged. The conditions in these operations for pelvic hematocele are very different from the opening of the abdominal cavity for ovarian tumor. I never expect to have any suppuration in operations for the tumor. The last operation that I performed—it was only during the last month—I skinned out a tumor that weighed thirty-six pounds. I tacked together a portion of the peritoneum. The only artery that needed tying was the ovarian artery. The woman was up and walking about in fourteen days. There was no discharge of pus through the cut, and you may expect it to heal by first intention. But when you meet with one of these large hematoceles, and you open the abdominal cavity and leave it open, you are certain to have suppuration, and the only safe way that you can do it would be after there had been inflammation and adhesion, and then to make the opening through that adhesion. It would have to be a very hard hematocele to unite by first intention.

The two operations—that for removing an ovarian tumor and the one for evacuating the cavity of a clot in pelvic hematocele, are certainly two very different operations.

Dr. GAY, of Columbus: It seems to me that there is a misunderstanding entirely about this operation. They

do not open the peritoneal cavity at all. They go in below. The tumor pushes the peritoneal cavity up, and you simply open the cavity outside of the peritoneum,—except in the case that has been suggested, that of secondary hemorrhage, when you might open the peritoneal cavity. Another suggestion that I would make in this relation is that you may push the sac with its contents still farther up by using a rubber bag filled with water. You can push the peritoneal cavity farther up and you can then reach the tumor without any trouble at all.

Dr. MILLER, of Cleveland: I would like to say one word in regard to the location, as I understand it, of pelvic hematocele. It is not always below the peritoneum, but sometimes even above the roof of the pelvis, just the width of the broad ligaments. And we can have an accumulation of blood either above or below that, and we may have transudation, or rupture, or anything that will throw blood into the cellular tissue, and we can also have an amount of blood thrown into the pelvis above the roof. And this is one of the principal points which the paper has made. I was highly interested in the paper, and I think it a correct move and in the right direction.

The first thing is, we may have several causes for the blood coming in. Simply a transudation after an acute attack of peritonitis was, I would think, probably the cause in the case which has been stated in the paper. And if it is above the roof of the pelvis it commences encysting and it forms a sac. The process is first by encysting, then by absorption. Then it goes into degeneration and we have, in connection with that, suppuration.

The question is, when shall we operate? We have in the first place the symptoms of hemorrhage—that is the first thing. The next is the shock, with a great amount of blood let loose into the peritoneal cavity. It may take forty-eight hours, or it may take more than that. The next thing is to know whether nature is going to take care of this. It would not be well to operate either at the time of a heavy inflammatory condition, which always comes on immediately after the encysting. We must have inflammation to encyst and as soon as this is over we find we have a high state of inflammation running into peritonitis. We must not operate at once and must not hurry the operation, neither should we prolong it until the system is

poisoned from the septic poison of the sac. But we should wait a favorable time and then open the peritoneal cavity —provided it is in the lower portion of the cavity, or open through below at a better place where you can secure drainage to the best possible advantage. If below, through the vagina; if above, through the abdominal wall. First, the location of the tumor, and then the proper or most favorable time for performing the operation should be determined. Nature takes care of a majority of these cases, if there is not too large a quantity of blood forming the hematocele.

Pelvic hematocele is sometimes misunderstood—many tumors are so formed that are supposed to be fibrous in their structure but which are merely the result of pelvic hematocele. What might be death in one case might be life in another. The question whether or not the tumor is a pelvic hematocele is always one of the most important questions to be settled.

Dr. REED, of Hamilton: If my object in preparing my paper had been to make myself misunderstood, I could not possibly have succeeded more admirably than I have, judging by the remarks that have been called forth.

In the first place, my paper was a discussion of some points in connection with the treatment of *extra*-peritoneal hematocele; the remarks that have been made relative to *intra*-peritoneal hematocele so far as they have been offered in criticism of my paper, were, therefore, irrelevent. My paper contained two suggestions. My first suggestion was that some treatment should be resorted to to control the initial hemorrhage. Now, this hemorrhage goes on progressively from week to week, receiving fresh accessions at each menstrual flow. Absorption in such cases does not take place very rapidly; on the contrary, we may expect trouble. In the majority of cases a long train of evils is sure to follow.

Are we not justified, then, in this class of cases, in performing an operation for controlling the initial hemorrhage?—in ligating the vessels laying beneath the broad ligament? The ligating of these vessels is not the very serious operation which has been pictured to us. It should be remembered that the blood comes, not so much from the ovarian artery, as a gentleman (Dr. Herrick) from

Cleveland has stated, but from the pampiniform flexus and the veins lying in the cellular tissues beneath the broad ligament. If, now, an abdominal incision is made and the ligature applied so as to include the entire fold of the ligament containing these vessels—taking in ligament, vessels and all—one ligature near the uterus and another near the pelvic wall, the hemorrhage can easily be brought under control. It may not, perhaps, be necessary to remove the clot in all cases, only ligate the vessels, control the hemorrhage, and the blood which has already escaped can be left to nature. Still in some cases it may be best to remove it at once, when recourse can be had to Tait's operation for the removal of pelvic accumulations.

My second suggestion was simply this: That the operation by incision, along the line of Poupart's ligament, was the best to effect drainage in cases where the deposit lies beneath the anterior fold of the broad ligament. The incision can be made along the line of Poupart's ligament, the peritoneum elevated, and the deposit reached and evacuated, without entering the abdominal or peritoneal cavity at all.

Now, as to the admission of air, and the subsequent septic changes, permit me to say that my first suggestion, which alone referred to the early stages of these cases, did not contemplate the early *evacuation* of the extravasation, but the early *control* of the hemorrhage; and that my second suggestion, which did refer to the evacuation of the clot, in certain instances, should only be adopted at a later stage of the case, and then, when there is a favorable condition of the patient.

Both the gentlemen from Cleveland seemed to think that this paper would go forth as an advocate of early evacuation in cases of hematocele. That is certainly a mistake. One gentlemen, (Dr. Herrick,) from his remarks about septic trouble following operations in these cases, led me to believe that he had in his mind the Paris cases reported from 1847 to 1855.. But he should recollect that we are living in another era;—we are living in the days of antiseptics, in the days of Lister and Tait, in the days of cleanly surgery, and in the year 1885.

DIABETES,

WITH EYE COMPLICATIONS.

S. C. AYRES, CINCINNATI, O., AND S. H. SHARP, M. D., LONDON, O.

Diabetic cataract is occasionally met with in practice but diabetic retinitis is so rare that DeWecker says in his work on ocular therapeutics that the most experienced surgeon will not have had many opportunities of seeing it, considering that M. Leber in his important work on that subject has been able to collect not more than nineteen cases. It would seem that the retina becomes involved only in the latter stages of the disease and that diabetic coma generally ends the scene. Among the eye symptoms noted are failure of accommodation and opacities of the vitreous, the latter resulting from intra-ocular hemorrhages.

The ophthalmoscopic pictures presented by Bright's disease and diabetic cataract are very similar. In the former, however, there are more extensive white masses of exudation and broader and more diffused retinal hemorrhages. There is also wanting in diabetes that radiating arrangement of the exudations so characteristic of Bright's disease. In diabetes there is more swelling of the optic papilla with obscuration of the larger trunks of vessels, and hemorrhages are small and circular and near the papilla.

It is a well established fact that blindness from atrophy of the optic nerves occurs in the course of the disease. That the cases are not more frequently examined with the ophthalmoscope is unfortunate, for they might throw some light on an obscure subject.

In the case which I now report there had evidently been neuritis which had fortunately subsided without causing much impairment of vision. I recently saw a case through the kindness of Dr. Sharp, of London, where there was acute swelling of the optic papilla with blurring of the vessels and a few hemorrhages. The prognosis in his case was unfavorable for already much damage had been done to vision.

The fortunate issue in my case is probably exceptional, and as it has some clinical features interesting to general practitioners, I give it to you.

CASE I.—J. N. M., age 39, farmer, well built, and has generally enjoyed good health.

His history is as follows: In 1862 he had severe neuralgia in the left eye lasting about two months. When it ceased he found the eye quite blind. In a short time, however, he gained good vision in the eye and had no further trouble until June, 1884, when he had another attack of the so-called neuralgia. This lasted about a month, and in the course of it, the sight of both eyes failed. He was not entirely blind, but he could not see to distinguish the members of his own family, nor could he see to recognize neighbors passing him on the road. After the pain in his head ceased his vision began slowly to return and in about a month was about as good as usual. The optic discs now appear much paler than normal giving evidence of a previous papillitis. The left optic disc is considerably blanched but the larger trunks of vessels are but slightly diminished in calibre.

The right optic disc is paler than normal but not so much altered as the left one. Vision in the left eye is 0.7, and in the right one is perfect.

There was no choroidal or retinal changed visible in either eye.

The cause of the optic nerve atrophy was obscure as there were no cerebral or spinal symptoms to account for the change.

An examination of the urine showed that it had a specific gravity of 1042.

It was then quite evident that the optic nerve atrophy was a result of the diabetic complication and he was sent home to his physician, Dr. D. L. Howard, of Paris, Ky., to have the necessary treatment carried out.

Dr. Howard placed him on Lugol's solution, with careful instructions as to diet and hygiene. In two weeks the quantity of urine was reduced one-half and there was marked improvement in thirst and in his general condition. February 15, 1885, urine has a specific gravity of 1050 with abundant evidences of sugar by Fehling's test. A week later he reported that the quantity of urine voided in one day was reduced to one quart. He is gaining in weight and his complexion is clearing up, appetite good, and sleeps well. In the course of six weeks specific gravity of urine was reduced to 1032, normal in quantity and he had gained very considerably in weight. He then without the doctor's consent and against his advice discontinued all treatment, internal, dietetic and hygienic, and on May 31, after a month's free indulgence, urine again had a specific gravity of 1052 but in quantity was little more than normal. The eyes, however, remained about as they were. It is more than likely that the atrophy will progress and that suddenly the cerebral symptoms so characteristic of this disease will end his career.

The interesting features of this case are the so-called headache which preceded the amblyopia, and the subsidence of the papillitis leaving good vision in both eyes. Pain in the head is not mentioned in any authority at my command as a symptom of diabetes.

CASE II.—*Diabetes with Marked Papillitis of Both Eyes.* John Jeffries, aged 28, farmer, amblyopia in left eye far advanced, gives the following history: For a year or more he has had peculiar attacks of pain beginning in his nose and extending to his head and then to his stomach, after which he would vomit. The vomiting would continue off and on for twenty-four hours, after which he could get relief. Has had such spells about once a month. They are not accompanied with vertigo. Two months ago he began to have attacks of blindness which would last only a few seconds. They would come on twice or three times a day. Now he has them as often as every hour. They are like a cloud which passes in front of him. He said he had one while I was writing.

Vision in the right eye was nearly 0.6, but with the left eye he could only count fingers at 6 inches.

The eye-balls presented externally a healthy appearance, the pupils responded fully to light, tension was

normal, so that the fluctuations in vision could not depend on any tendency to glaucoma.

The ophthalmoscope showed most marked papillitis, the optic discs standing out like nipples. The vessels on the optic discs were obscured and there were some small hemorrhages visible. The retina beyond the immediate vicinity of the disc appeared healthy in each eye. A sample of his urine submitted to examination showed an abundance of sugar, its specific gravity being 1040.

The following report of the case is furnished by Dr. Sharp. After Mr. Jeffries returned from consulting Dr. Ayres, I made a careful examination of his case on April 8th, and found symptoms as stated in Dr. Ayres' notes. Directed in addition to the iodide of potassium, then using, as suggested by Dr. Ayres, liquor arsenitis bromidi, 2-7 drops in water after meals, with anti-sugar diet, and was particular to give patient written schedule for guidance.

April 18, patient reports complete immunity from headache, dizziness and nausea since commencement of treatment on April 7th. Can see lead pencil at five feet with left eye, and in right eye vision improved. Ophthalmoscope shows much less swelling and redness of optic discs, and margins of left disc outlined but irregular. Urine, specific gravity, 1021. Sugar not discovered on very careful testing.

Treatment as above continued.

April 25. No return of gastric symptoms, no headache, no dizziness.

R. E. V. almost normal, can read ordinary type.

L. E. V. 100. 10 of Snellen's. Can read C. of Snellen's types at 10 feet.

Ophthalmoscope showed improvement in conditions of optic discs.

This, as will be perceived, was at the end of three weeks treatment adhered to as first instituted. At this examination traces of sugar shown in the urine, perhaps due, as I afterwards learned from the patient's wife, to his not adhering to regimen prescribed. Treatment continued as at first.

The patient did not visit me again until May 20, and then reported that he had been down with an attack of

diphtheria, and concomitant inflammation of palms of hands and soles of the feet.

I found on examination as follows: Patient's appearance that of one who had been sick for some time, pallid, dark lines under eyes, emaciated, tongue flabby, and with milky fur, appetite gone, a livid line marking margin of skin and thick epidermis of soles of feet, this epidermis raised by serous effusion beneath, patient walking with great difficulty; epidermis palmaris dry and hard and blistered and commencing to exfoliate. Patient states that the veins of the leg were much enlarged and the ankles slightly swollen for some days during acute attack.

Thinks there was not much disturbance from the throat trouble. His physician, however, thinks he had a slight attack of diphtheria, following the attack from which his child had suffered.

What was the cause of the dermatitis palmaris and plantaris? Was it due to, or dependent upon, the causes of throat trouble, or was it of the trophoneurotic variety, due to central causes? An interesting question.

The specific treatment had been discontinued, and we put patient upon the tonic and restoration plan, until a return to general health should be completely accomplished. Vision was not so good in the left eye as before this accident, he could see fingers at five or six feet.

June 2. Much improved in general health, palms and soles largely exfoliated, vision of left eye, 200 of Snellen at 8 feet. Urine contains slight traces of sugar.

OCCIPITO-POSTERIOR POSITIONS.

BY HENRY G. LANDIS, M. D., COLUMBUS, OHIO.

Professor of Obstetrics and Diseases of Women in Starling Medical College.

It is in some respects unfortunate that the authors of our text books are also, as a rule, teachers of the subject in colleges. The teacher must simplify at all hazards. He must proclaim the type, and insist upon the type even when aberrations leave little of it to be seen. He must map out the customary course of a given disease, and to get it into the heads of his auditors, must lay such stress upon the typical course that the variations therefrom meet with little attention. Indeed, the tendency of the teacher, unless he keep a close watch upon himself, is to finally deceive himself as to the relative importance and frequency of type-forms as distinguished from variants. To this cause can, I think, be traced much error, much ill-based generalization, and even some rules of practice in all departments of medicine.

The relevancy of these remarks to the subject in hand is based upon the fact that text books commonly make little of occipito-posterior positions. A consensus of opinion obtained from a gathering of closely observing physicians would probably differ materially from a similar compilation of opinions from books. I do not believe that any careful physician encounters occipito-posterior positions without apprehension, very inadequately represented in the latest American text book (Lusk) in these words, p. 178: "Delivery in these cases is apt to be tedious, and often demands the aid of forceps." He knows

that the case *may* terminate favorably after more or less delay; but if he has had a sufficient experience he also knows that delivery may be almost, or altogether, impracticable by ordinary methods.

It is my present intention to call attention to a few points concerning occipito-posterior positions upon which sufficient stress is not commonly placed.

I. The first stumbling block in the management of occipito-posterior positions is the difficulty of diagnosis. The third, or R. O. P., position is admittedly the most frequent. The sagittal suture trends precisely as in the first L. O. A. position. The size of the fontanelle is very misleading. The anterior fontanelle may be as small as the posterior usually is, and the two cannot be compared without the introduction of the hand. It is true that four sutural lines run into the one fontanelle, and but three into the other, but this has a different appearance on paper from what it has to the finger tip. In the course of my practice I have had several infallible methods of discrimination, which, by aid of teaching them to others with demonstration on the manikin, I have for years at a time been quite sure of; but at the present time I know of no way to make the diagnosis except by careful comparison, point by point, of every feature in the case. Especial value may be given to the observation of the movement of the fontanelles. During the course of the labor the head will, or should, become flexed. This will make the presenting fontanelle move backwards and towards the median line, if it is an occipito-anterior position, but will cause the fontanelle to move upwards if the occiput is behind.

II. The occiput very commonly rotates anteriorly, so that the case ends as an occipito-anterior one; if not, the occiput continues to rotate posteriorly and emerges over, or more frequently through, the perineum.

There are sundry secondary reasons why the occiput turns forward, but the fundamental reason why it does or does not rotate anteriorly is the position of the child's shoulders relative to the mother's vertebral column and sacro-iliac arch. If the child's back remains behind toward the mother's back, the occiput can neither rotate nor be rotated in front without breaking the child's neck. If the child's back is turned in front, the occiput cannot remain

posterior to the end without a similar catastrophe, and an untwisting force is developed in the neck which is sure to bring the occiput in front sooner or later.

The present occasion is not suitable for demonstrating these facts, and I have detailed them at length elsewhere. The practical corollary is evidently that the true way to insure anterior rotation of the occiput is by abdominal palpation to turn the child's body so that its back will be towards the mother's abdomen. Candor compels me to add that I have so far found this maneuver so difficult of accomplishment that I am not sure that I have ever fully succeeded in effecting it. It is certainly the true way of treatment and should be always attempted.

III. Other assistance may be comprised in two heads, —flexion and the use of the forceps. Flexion of the head by pressing upon the anterior portion of the head with two fingers is usually feasible, and always of advantage. Sometimes it is sufficient alone to expedite delivery. As for attempts to cause anterior rotation by the fingers or hand, it may be said that the lower the head is in the pelvis the greater the chance of success. Inasmuch as it is simply impossible to perform this maneuver while the child's back is posteriorly directed, it is better to confine it to assisting an already observed tendency to rotate. I do not think that it is ever proper to introduce the hand for the purpose of effecting anterior rotation at the brim. If the shoulders do not also turn, the child would be killed, even if the attempt momentarily succeeded, and as soon as the hand is withdrawn the occiput whirls back again. On the other hand, if the child's back is turned in front, no such maneuver is necessary; the head will surely rotate with the occiput in front before delivery. The indications for the use of the forceps differ from those applying to occipito-anterior cases mainly in this, that a little more time should ordinarily be given to the natural efforts. One reason for this is that the compression of the head by the forceps interferes with the natural mechanism of rotation. This is, however, a minor evil. Another reason, and one commonly overlooked, is that the application of the forceps to the occipito-posterior positions is attended with some dangers to the child which are entirely absent from their use in the occipito-anterior cases. The tips of the forceps blades are liable to press upon the cervical region

in such wise as to wound the pneumogastric nerve and neighboring structures. I have seen several deaths apparently due to this cause. For this reason one should exercise great care in applying the blades to the head, and should use no more compression than is absolutely necessary.

Attempts to forcibly rotate the head with the forceps are to be deprecated, but should the head show a tendency to rotate as it passes the inferior strait, for instance, the movement may be assisted without fear if the woman is in the proper obstetric position. The part of the blades still within the vagina, under such circumstances, is sufficiently straight to be turned around without harm. A beginner, perhaps, had better take off the forceps when the head proceeds to rotate, and reapply if necessary after rotation is completed. The amount of force required in some cases to effect delivery is very great. Flexion may be impossible, and though I have never had to resort to craniotomy solely because the occiput was posterior, I can readily believe that it is at times necessary. Indeed, I have sometimes thought, after dragging a child through the maternal tissues, that it would have been wiser, more scientific and more economic of risks, to have delivered by perforation.

I append a few illustrative cases observed within the last few years.

CASE I. Multipara, twin labor. First child, 7½ pounds, born without accident; labor pains disappeared for nine or ten hours. Second twin presented with the face. This I converted by the hand into a R. O. P., waiting afterwards for the development of contractions. After these had been developed for about two hours, the forceps were applied, when it was found that the occiput had rotated anteriorly at the superior strait, and a 10 pound child was delivered without difficulty.

CASE II. This illustrates anterior rotation at the inferior strait, without interference. This also was a twin case, but the first only presented R. O. P. No assistance was required beside laying her on her side.

CASE III. A L. O. P., in an obliquely deformed pelvis. The forceps were applied at the superior strait,

but as the head entered the inferior strait it began to rotate. The forceps were removed and reapplied after rotation, delivering a male, 10 pounds; occipito-frontal diameter, 5½ inches.

CASE IV. R. O. P., with prolapse of the funis, in a woman whose only preceding child had been still-born. After consultation with Dr. Loving, an attempt was made to dilate the partially dilated os, and deliver promptly with forceps, the cord being irreducible. The pelvis was found to be a slightly flattened rachitic one, and no safe force would deliver at all at that stage. A rest of several hours was taken, during which full dilatation of the os was completed, and the sutures were made to overlap. The forceps then brought the head to the perineum with moderate traction. They were then removed, and a finger being placed against the sutural edge and pressure made, the occiput glided around in front and emerged over an intact perineum. Rotation on the perineum in this wise is by no means uncommon, and would be less so if it were watched for and promoted.

CASE V. Twin labor. One-half of this brief series happen to have occurred in twin labors. No doubt this proportion does not hold in general, but it is probably frequent enough to make additional caution necessary in any abdominal manipulation, lest the second twin should be displaced from an originally favorable position. This labor was in a woman who had had several miscarriages, but none before at full term. Three weeks before labor she had urgent symptoms of eclampsia. Although these were largely removed, it was desirable that her labor should not be more protracted than necessary. The abdomen was enormous, but twins, though suspected, were not predicted. The first child presented R. O. P. The first stage occupied so little time that the forceps were not applied until two hours of the second stage had shown the impotence of the contraction. The forceps were applied with difficulty, because of the very small size of the vulva and vagina. Traction was then made by Dr. Hoover and myself for three-fourths of an hour, at the end of which time the head was born, occiput still posterior. But as soon as the head was free from the vulva, it at once whirled around with the occiput anterior, showing that the

shoulders had entered the pelvis with the back in front. and that anterior rotation might probably have been secured in the perineum. This was of less consequence because the perineum was absolutely uninjured, The second twin also was delivered with the occiput posterior, and a slight nick in the perineum was afterward found. But although the outward damage was slight, it was found that several long rents had been made in the vagina. The children weighed ten pounds each, and their heads were large, well ossified, and unyielding. The woman would have probably done well in spite of this, if she had not developed acute mania on the fifth day. Both children were living.

I had previously witnessed a vaginal rent after powerful traction in an occipito-posterior position. In neither instance did the rent extend into the bladder or rectum, but appeared to be limited to the inner coats of the vagina. In the former case, observed in 1872, the woman was but little inconvenienced by the accident.

CASE VI. This was a face presentation, R. M. A. The forceps being applied and flexion made, the brow moved upward so readily that it was converted into a R. O. P. Hardly a judicious proceeding, as the occiput remained posterior throughout, but without injury to the perineum.

These cases will suffice to illustrate some of the points alluded to, but there is nothing more difficult than to convey to others the exact state of affairs witnessed in a given labor.

OBITUARIES.

Dr. JOHN B. THOMPSON.

Dr. John B. Thompson was born at Cannonsburg, Pennsylvania, September 15, 1802. He received such an education as the facilities of those times afforded in a new country. When a young man he went to Cambridge, Ohio, where he read medicine with his brother, Dr. Robert Thompson. It was here he met Miss Seeber, and in 1827 they were united in marriage. In 1835 he removed with his family to Columbus, Ohio, where he afterwards resided, and was in every way identified with the growth and prosperity of the community.

Belonging to a family of physicians whose extended reputation was secured by sterling ability, he proved himself well qualified to sustain the lustre of his house. He lived to be the last of his race, and died on May 12, 1885, in the 83d year of his age.

He was among the earliest members of the Ohio State Medical Society, and held all the offices within its gift. He was a strong advocate of total abstinence, a staunch abolitionist, and an earnest friend of every movement for the education and advancement of the people. He was an humble and sincere Christian, doing all for the glory of God and, as he felt, under His special guidance.

He retired from active practice several years ago, when he had come to feel, with Emerson,

> "It is time to be old,
> To take in sail;
> The god of bounds,
> Who sets to seas a shore,
> Came to me in his fatal rounds
> And said, 'No more!'"

[Ed. in *Col. Med. Jour.*, June, 1885.]

Dr. EUGENE B. PRATT.

Dr. Eugene Beauhanois Pratt, son of Elias and Elizabeth Pratt, was born in Pickaway county, Ohio, February 12, 1835, died November 5, 1884, Dr. Pratt began the study of medicine with Dr. Jesse C. Thompson, at South Bloomfield, O., and graduated from Starling Medical College in February, 1862. He began the practice of medicine in Darbyville, O. In 1865 he went to New York to attend lectures, and took an Ad eundum degree at Bellevue. He then moved to Mt. Sterling, O., where he continued in the practice of his profession until his death.

He was married to Hannah Reed, May 22, 1862, to whom were born seven children, four of whom are now living. His wife died in February, 1881.

Dr. Thompson gives ardent testimony to the zeal and earnestness which Dr. Platt displayed in his studies while with him, proving himself to be a student, though of previous limited advantages, of far above the average ability. His early promise was fully realized when he entered upon the practice of his profession. He rapidly rose to the front ranks and commanded a large and lucrative practice, in which he proved himself especially careful in diagnosis, making himself thoroughly acquainted with every case under his charge, and to the ordinary duties of a physician adding those of a very sympathetic nurse. Dr. Pratt, upon his removal to Mt. Sterling, identified himself with all the interests of his new home. Three successive times was he elected to the School Board.

His many papers, read before the various county and State societies, and published in the medical journals, gave him a wide and enduring fame. He was a member of his own and adjoining County Medical Societies, President of the Central Ohio Medical Society and First Vice-President of the State Medical Society. He wrote quite a number of able and instructive papers, of which the following are some of the subjects selected: Treatment of Typhoid Fever; Auscultation of Esophagus; Infantile Diarrheas; Diphtheria; Treatment of Inflammation of Knee Joint.

The medical profession has lost a wise and valued counselor; the town in which he lived, a large-hearted, public-spirited citizen. To his many patients it will seem that they have lost more than all. But to the children, now so sorely bereft of both mother and father, the loss is so great, so real, that poor little words of written language fail utterly to express it.

W. H. E.

Dr. JOHN D. KEMP.

Dr. John D. Kemp was born in Montgomery county, Ohio, October 19, 1830.

His parents were Isaac Kemp and Margaret (by birth Herring), he being the youngest of five children born to them. Only two, Lewis and Jacob, are now living. He studied medicine with Drs. Oliver and James Crook, graduated at Baltimore Medical College in the year 1856, commenced the practice of medicine at Vandalia, O., in the same year, and continued at the same place for sixteen years—having an extensive practice. He was married in June, 1871, to Miss Harriet A. Holderman, of Emporia, Kansas.

He then in May, 1872, removed to Dayton and resumed his practice. In October, of the same year, he was seriously injured by being thrown from his buggy by a fractious horse, from the effects of which he never entirely recovered. In February, 1873, he was unfortunate in the loss of his wife by death, she leaving a babe but three months old, who now survives the deceased. His health has been delicate for two years past, and he died April 17, 1884, aged 53 years.

Dr. Kemp represented Montgomery county in the Legislature for two terms, and he was elected for one term to the Senate by the counties of Montgomery and Preble. For several years previous to his death he was a member of the Board of Trustees of the Southern Ohio Association for the Insane, located at Dayton, O. He was an upright, honest man, respected and esteemed by all who knew him.

[*Jour. Am. Med. Ass.*, June 28, 1884.]

Dr. J. L. FIRESTONE.

To the Union Medical Society of Columbiana and adjoining Counties:—

GENTLEMEN:—Your Committee who were appointed to draft suitable resolutions in regard to the death of our late member, Dr. J. L. Firestone, begs leave to submit the following: The subject of these resolutions, Dr. J. L. Firestone, was born in Knox township, Columbiana county, Ohio, on the 2d day of October, 1829, where his early youth was spent in the work of a farmer boy. His early education was received in the common school of the district in which he lived, and in a school taught by Wm. McLean, first in Marlboro and afterwards in Salem.

In the year 1851, he commenced the study of medicine with his brother, Dr. Leander J. Firestone, of Wooster, O., and after having studied the required time graduated at Castleton, Vermont. Sometime afterwards he attended lectures at Bellevue Medical College, N. Y., and graduated again with honor.

Dr. Firestone's first practice was in the capacity of Assistant Physician to the North Ohio Lunatic Asylum at Newburg, Ohio, a position in which he did not remain long.

He next commenced practice in Apple Creek, in Wayne Co., Ohio, but on account of failing health did not remain long. He now returned to Columbiana county and engaged in the drug business in Salem with Dr. J. C. Whinnery, for a year or more.

On regaining his health he quit the drug business and located in Medina, Medina Co., Ohio, and continued in good practice until the war broke out.

He was commissioned surgeon to the 117th Reg't. O. V. I. Afterwards he was appointed Surgeon to the 1st Reg't. Ohio Heavy Artillery. On the

conclusion of the war he spent some time in the Hospitals in New York, pursuing special studies in surgery.

In the year 1866, he became a partner of Dr. A. Carey, of Salem, O., and continued until Dr. C.'s death, in 1872. He continued to practice in Salem, as much as his broken health would permit, until he received the injury which was the immediate cause of death, which sad event occurred on the 6th of February, 1885. The doctor was a member of the American Medical Association and of the Ohio State Medical Society.

WHEREAS, We have heard with profound regret of the decease of our friend, associate and professional brother, J. L. Firestone, M. D.; therefore,

Resolved, That this Society is called upon to mourn the loss of a member who took a leading part in all of its deliberations and, to the end of his life, was faithful in the performance of every duty imposed upon him that had for its object the good of the Society.

Resolved, That while expressing our profound sorrow over our loss, the Union Medical Society desires to place on record its high appreciation of Dr. J. L. Firestone, his eminence as a physician and his worth and virtues as a man.

Resolved, That to the bereaved widow and friends we tender our heartfelt sympathy.

Resolved, That these resolutions be recorded in the minutes, and that a copy be sent to the wife of the deceased and published in the Salem papers.

C. L. FAWCETT,
WM. MOORE,
E. GRISSELLE,
C. M. HOOVER,
J. ANDERSON,
} Com.

DR. THOS. L. NEAL.

Dr. Thos. L. Neal was born Sept. 9th, 1830, in Mechanicsburg, O. At the age of fifteen he became a student of medicine in the office of Dr. Henry Conklin, of Sidney, O., attended lectures at Cincinnati, O., and received the degree of Doctor of Medicine from both the Miami Medical and Ohio Medical Colleges. He served one year as interne. in the *Cincinnati Hospital*, then returned to Sidney and formed a partnership with his former preceptor, Dr. Conklin, which continued for five years. He then opened an office in Cincinnati and was for one year physician to the Cincinnati Infirmary at Carthage, O. At the outbreak of the war he offered his services to the Government, passed satisfactorily the examination, but not having been in practice for the ten years prescribed by the Government of Ohio for a Surgeonship, he was appointed assistant surgeon of the 18th O., but was at once detailed to hospital duty by Dr. Wirtz, U. S. A. Medical Director on General Rosecrans' Staff, and for three months had in his charge the two large Hospitals at Charleston, W. Va. He then, by the unanimous request of the Officers of the 2nd. Va. Cavalry, was appointed their Surgeon and served with them three months. He was then again with his regiment at Ganley Bridge until the famous retreat when he lost all his baggage, and being caught in a drenching rain, was in wet clothes for several days from which he contracted the bronchial trouble and cough which finally induced his resignation. He was after the retreat detailed to hospital duty at Point Pleasant. After several months' services there his health became so precarious that he tendered his resignation, which, after considerable trouble and delay, was accepted. He was then

offered hospital work in Cincinnati, which he declined, preferring the private practice of his profession in Dayton, O., where he opened an office in April, 1863. In 1868 he was appointed the first Health Officer of the City of Dayton. His heart was in his work, and during the sixteen years he held the office he proved himself to be an efficient and able sanitarian.

For a number of years he was a member of the Executive Committee of the "American Public Health Association," being especially interested in sanitary matters.

Dr. Neal was an honor to his profession. He was a good student, industrious and attentive to the progress of science. Honest in the strictest sense of the word, humane, and in all his thoughts generous. As a practitioner he was always a model for his professional brethren, upright, earnest and attentive even to the smallest wants. The poor who suffered for medical attention never applied to him in vain. To the young physician he was always a friend, always ready to give friendly and good advice. He always saw and appreciated the good qualities of his brother practitioners. He was a true friend, a kind man, a good citizen, a benefactor to his country, and an excellent husband and father.

In the death of Dr. Neal, which occurred February 12th, 1885, the community and profession lost one of its best counsellors and advisors.

J. S. BEVINGTON, M. D.

Since our last meeting it has become our solemn duty to mourn the loss of a brother in the profession and a member of our State Society, in the person of Dr. J. S. Bevington. We not only mourn his loss but reflect with a peculiar sadness upon the circumstances which caused his sudden and untimely death. On January 3rd, 1885, being on professional duty, while crossing the P. & C. R. R., near Rootstown, O., he was struck by the locomotive of a passing train and killed outright. Dr. J. S. Bevington was born in Holmes Co., Ohio, June 14th, 1844. He received a fair common school education to which he added much by his own personal efforts. He taught school during the winter for ten years and worked at the carpenter trade during the summer, and was considered a skilled mechanic. On Oct. 26th, 1866, he was married to Miss Katie Mummaw, of Holmes Co., O., with whom he lived up to the time of his death, and whom, with six children, he leaves to mourn his loss. He served as a soldier in the late civil war for three years in Co. A., of 102d Regiment. In the year 1875 he began the study of medicine with Dr. P. P. Pomerene, of Berlin, Holmes Co., Ohio, and graduated at Cleveland in the spring of 1878. After his graduation he engaged with his preceptor for two years, after which he did business for himself in the same town till the spring of 1883, when he located at Freedom Center, Portage Co., Ohio, where he practiced medicine up to the time of his death, which occurred Jan. 3rd, 1885, as related above. In him the profession loses a noble brother and the community a useful citizen.

P. P. POMERENE.

Dr. ARIEL B. HOVEY.

To the Ohio State Medical Society:

It becomes our painful duty to convey to your worthy body the sad intelligence of the death of our brother, Dr. Ariel B. Hovey, who departed this life Oct. 2nd, 1884. We cannot forbear calling to your notice some of his excellent qualities that endear him in the hearts and memories of his many friends and patrons. A man with more than ordinary ability. A successful surgeon and a competent physician, serving his time and talent for his patrons, with that zeal characteristic of a true friend and physician. Dr. A. B. Hovey graduated at the Western Reserve College of Medicine in Cleveland, in 1852, and in the same year located in Tiffin, O., where he continuously practiced Medicine and Surgery until his death. Passing through the trials and hardships incident to the early practitioners in this country, he lived to reap liberally from his efforts and sacrifice, yet dying in the full vigor of manhood, being 56 years of age at the time of his death.

Therefore Resolved, That in the death of Dr. A. B. Hovey, the State Society has lost a worthy member, the Seneca County Medical Society a valuable worker, the city of Tiffin and vicinity an estimable citizen.

Resolved, That in his death we submissively bow and acknowledge the working of a Divine hand which doeth all things well.

J. W. HECKERMAN,
E. J. MCCOLLUM,
H. B. GIBBON.

TIFFIN, O., June 2, 1885.

JAMES EWING, M. D.

Dr. James Ewing was born in Huntington Co., Pa., January 15, 1800. His father in removing to Zanesville, O., in 1814, left him with his uncle in Wheeling where he attended school three years, and then came to his home in Ohio. Here he obtained an Academic education, and then with several others commenced the study of medicine and attended what was called the Academy of Medicine, with Dr. F. J. Flanner as his preceptor. After a three years course he received his diploma to practice from a Board of Censors legally elected by the Medical Society of the 15th District of Zanesville, O., bearing date Dec. 1, 1826, and signed by John Hamm, President, and Wm. Moore, Secretary.

In 1827 he commenced the practice of medicine in Hebron, Licking Co., O., where he continued in successful practice until Sept. 1, 1884, then removed to Pataskala, and resided with his son-in-law, Joseph Atkinson. He remained in his usual health until Dec. 13th, 1884, when he was taken suddenly with paralysis, and died the next day, aged 84 years, 10 months and 29 days, having been in the active practice of medicine 57½ years.

O. JOHNSON, Sec. C. O. M. S.

Dr. FREDERICK HOHLY.

Frederick Hohly was born Nov. 27, 1831, at Neuenstadt, Wurtemburg. He received his primary and higher education in the schools of his native town, and in 1851 he entered the Medical School at Tubingen, where he remained four years and received his degree of M. D. He came to Toledo the same year, 1855, and remained about one year, being associated in practice with his father. He then pursued the practice of his profession for some time at Superior, Wis., at Beaver Bay, Minnesota, and at Haughton, in the Northern peninsula of Michigan, returning again to Toledo in 1860.

During the war of the Rebellion he served as Ass't. Surgeon in the 12th Regiment Missouri Cavalry, and as Surgeon of the 37th Regiment Ohio Infantry from April 28, 1864, to the close of the war. He then returned to Toledo where he resided to the time of his death, Oct. 16, 1884.

Dr. Hohly was a regular attendant on the meetings of the Toledo Medical Association, having joined it in 1866 and was its Vice-President at the time of his death.

He was elected a member of the State Medical Society in 1874.

As a practitioner, Dr. Hohly was prompt and untiring in his devotion to the needs of his patients, and was regarded by them with confidence and affection. He had established himself in a successful

practice and had a fair prospect of acquiring a competence when death removed him from his labors.

As a citizen, Dr. Hohly enjoyed the respect and confidence of his fellow men, who elected him to the office of Coroner in 1880 and 1882.

To the debates and literary exercises of the Toledo Medical Association, Dr. Hohly was an occasional contributor, as also to medical journals, his natural diffidence restraining him from presenting much of value which his experience had brought him.

As a fellow practitioner he was always found honest, conscientious and scrupulous in his regards for the rights of others. No complaint of ethical laxity was ever heard.

Dr. Hohly was married in 1866 to Miss Pauline Kirchmaier, who, with two sons and two daughters, survives him. Respectfully submitted,

G. A. COLLAMORE,
S. F. FORBES,
H. M. SCHNETZLER, } Com.

LIST OF MEMBERS

OF THE

OHIO STATE MEDICAL SOCIETY,

WITH THEIR

Post-Office Address and Date of Admission.

NAME.	P. O. ADDRESS.	ADM'D.
Adams, P. N.....	Dayton.....	1885
Alcorn, A. W.....	Ravenna.....	1870
Allen, D. B.....	West Liberty.....	1865
Allen, Dudley.....	Oberlin.....	1870
Allen, Dudley P.....	Cleveland.....	1885
Allen, Harlan P.....	Columbus.....	1884
Anderson, James.....	Salem.....	1884
Anderson, W. G.....	Columbus.....	1884
Asbury, T. B.....	Jerome.....	1878
Arms, Chas. C.....	Cleveland.....	1880
Axline, C.....	Fultonham.....	1884
Axline, J, D.....	Shawnee.....	1882
Ayres, S. C.....	Cincinnati.....	1877
Bain, F. D.....	Kenton.....	1885
Baker, George G.....	Akron.....	1884
Baker, W. O.....	Louisville.....	1882
Baldwin, J. F.....	Columbus.....	1875
Ballinger, J. B.....	Versailles.....	1880
Ballinger, Wm. J.....	Plain City.....	1864
Barb, Foster W.....	Burgh Hill.....	1884
Barnes, W. T.....	Fredricksburg.....	1879
Barnhill, J. W.....	Columbus.....	1884
Barrere, D. M.....	New Carlisle.....	1884
Bartlett, E. P.....	Marietta.....	1874
Barton, T. J.....	Zanesville.....	1881
Battles, W. S.....	Shreve.....	1858
Bauer, M. M.....	Lake.....	1884
Beach, A. J.....	Belleville.....	1863
Beach, A. P.....	Seville.....	1880

NAME.	P. O. ADDRESS.	ADM'D.
Beach, J. N.	West Jefferson	1854
Beach, T. D.	Catawba	1884
Beach, W. M.	London	1879
Beardsley, C. E.	Ottawa	1869
Beck, J. S.	Dayton	1879
Beers, A. M.	Newcomerstown	1882
Belden, A. C.	Akron	1878
Berlin, C.	Wapakoneta	1868
Besse, H.	Delaware	1868
Beverly, P. V.	Columbus	1862
Bing, J. P.	Portsmouth	1851
Bishop, S. P.	Delta	1870
Blair, James F.	Marshall	1884
Blake, W. H.	Shadeville	1878
Bleile, A. M.	Columbus	1882
Blizzard, S. R.	Bellefontaine	1860
Bœrstler, G. W.	Lancaster	1870
Bowen, A. H.	Lincoln, Neb	1878
Boylan, A.	Milford Centre	1878
Bramble, D. D.	Cincinnati	1870
Brannan, T. H.	Canal Dover	1884
Brayton, F. W.	Carey	1881
Bricker, W. R.	Shelby	1884
Brinkerhoff, D. H.	Fremont	1853
Brison, H. C.	Millersport	1884
Brockett, A. J.	Bristolville	1874
Brown, H. M.	Williamsburg	1882
Brook, G. W.	Ellsworth	1858
Brundage, A. H.	Xenia	1878
Brush, E. C.	Zanesville	1878
Buckingham, John M.	Springfield	1885
Buckner, J. H.	Cincinnati	1863
Buechner, W. L.	Youngstown	1879
Buffett, Lewis.	Cleveland	1880
Bunn, J. W.	West Union	1882
Burton, E. D.	Collamer	1880
Butler, Geo. O.	Cleveland	1870
Butler, G. W.	Columbus	1869
Caldwell, W. W.	Hamilton	1874
Carmichael, W. A.	Loveland	1871

NAME.	P. O. ADDRESS.	ADM'D.
Carpenter, Julia W	Cincinnati	1879
Carr, E. C	Coshocton	1882
Carrick, A. L	Cincinnati	1871
Chamberlain, D. P	Toledo	1874
Chapman, Byron	Copley	1885
Chase, James L	Toledo	1874
Clark, C. F	Columbus	1885
Clark, John H	Mechanicsburg	1869
Clark, M. S	Youngstown	1865
Coldham, James	Toledo	1884
Coleman, N. R	Columbus	1875
Collamore, G. A	Toledo	1880
Collins, John M	Toronto	1884
Conklin, W. J	Dayton	1868
Conner, P. S	Cincinnati	1868
Cook, Alta F	Sandusky	1885
Cook, G. F	Somerville	1885
Cooper, A	Columbus	1881
Corlett, W. T	Cleveland	1882
Corson, John	Middletown	1866
Corson, O. M	Trenton	1879
Cornwell, H. G	Los Angeles, Cal	1874
Courtwright, A. P	Circleville	1871
Courtwright, G. S	Lithopolis	1867
Covington, P. D	Bellefontaine	1881
Cowan, Chas. S	Hardin	1885
Cox, J. M	South Salem	1877
Crafts, J. M	Cuyahoga Falls	1880
Craig, J. W	Mansfield	1874
Crane, A. M	Waldo	1881
Crum, Edward C	Dayton	1885
Culbertson, Howard	Zanesville	1855
Culbertson, J. C	Cincinnati	1880
Cushing, H. K	Cleveland	1857
Cuykendall, M. C	Bucyrus	1874
Dandridge, N. P	Cincinnati	1871
Darby, F. H	Morrow	1882
Daugherty, J. D	Dayton	1879
Davis, A. A	Mineral Point	1884
Davis, B. W	Marion	1878

NAME.	P. O. ADDRESS.	ADM'D.
Davies, W. C	Granville	1882
Davis, Wm. B	Cincinnati	1865
Davy, R. B	Cincinnati	1875
Dawson, J. O	Westerville	1881
Dawson, W. W	Cincinnati	1853
Denman, W. C	Marion	1882
Dickey, John A	Goshen	1884
Dickey, Thomas A	Middletown	1879
Dimmick, O. A	Chardon	1884
Dimond, Henry C	Springfield	1885
Dissinger, H	Canal Fulton	1885
Donahoe, H. J	Sandusky	1854
Donnellan, J. E	Germantown	1879
Dorland, W. L	Chicago, Ill	1878
Downs, Samuel	Waterville	1876
Drake, J. L	Lebanon	1859
Drury, Wm. H	Columbus	1859
DuBois, E. B	Dayton	1879
Dumm, S. C	Columbus	1877
Dun, Walter A	Cincinnati	1885
Duncan, James A	Toledo	1874
Dunlap, Alexander	Springfield	1854
Dunlap, A. S	Dayton	1868
Dunlap, C. O	McArthur	1881
Dutton, C. F	Cleveland	1880
Dwyer, R	Petersburg	1879
Ealy, A. E	Albuquerque, N. M	1879
Eckman, Hiram	Tuscarawas	1869
Eichberg, Joseph	Cincinnati	1882
Elster, L. A	Jeffersonville	1884
Emery, W. H	Mt. Sterling	1881
Erwin, R. W	Bay City, Mich	1872
Evans, A. E	Columbus	1882
Evans, James W	Chillicothe	1884
Evans, R. R	Franklin	1879
Everhard, N. S	Wadsworth	1870
Everts, Orpheus	College Hill	1885
Ewing, S	Plain City	1882
Fackler, J. E	Versailles	1879
Falconer, Cyrus	Hamilton	1854

NAME.	P. O. ADDRESS.	ADM'D.
Fenneberg, Gustavus....	Toledo.....	1874
Ferguson, J. W.....	Congress.....	1882
Ferrell, C. B.....	Columbus.....	1878
Firestone, L.....	Wooster.....	1852
Fisher, H. M.....	Akron.....	1881
Fisher, P. Q.....	Nashport.....	1873
Fisher, W. S.....	Bridgeport.....	1876
Floyd, J. C. M.....	Steubenville.....	1884
Follett, Alfred.....	Granville.....	1864
Forbes, S. F.....	Toledo.....	1856
Foster, G. F.....	Kingston Center.....	1882
Fowler, C. R.....	Sparta.....	1880
Fowler, S. W.....	Delaware.....	1873
Frankenburg, O.....	Columbus.....	....
Franklin, G. S.....	Chillicothe.....	1876
Freeman, George.....	Richmond Dale.....	1885
Frizzell, W. A.....	Freestone.....	1872
Fuller, S. W.....	Bellefontaine.....	1853
Fulton, C.....	Bucyrus.....	1881
Galbraith, E. C.....	Frankfort.....	1876
Galer, Frank M.....	DeGraff.....	1874
Gawne, A. J.....	Sandusky.....	1870
Gay, N.....	Columbus.....	1848
Gibson, Richard D.....	Youngstown.....	1882
Gibson, Robert M.....	Portsmouth.....	1884
Gill, H. Z.....	Cleveland.....	1884
Gillespie, J. M.....	Bloomingsburg.....	1880
Gilliam, D. T.....	Columbus.....	1873
Glenn, W. W.....	Bloomingsburg.....	1882
Goodhue, George.....	Dayton.....	1884
Goodson, J. W.....	Sterling, Kan.....	1874
Gordon, T. W.....	Georgetown.....	1849
Goss, J. H.....	Lancaster.....	1884
Graefe, Philip.....	Sandusky.....	1875
Graefe, Wm.....	Sandusky.....	1874
Granger, B. D.....	Russell Station.....	1878
Granger, F. M.....	Russell Station.....	1881
Gray, F. C.....	Lewisburg.....	1879
Greenamyer, P. S.....	Smithville.....	1875
Green, D. W.....	Dayton.....	1882

NAME.	P. O. ADDRESS.	ADM'D.
Green, H. S.	Cardington	1878
Green, J. W.	Fairfield	1853
Green, J. H.	Troy	1871
Greenleaf, C. R.	Columbus	1884
Grill, S. P.	Orrville	1885
Groves, J. E.	Uhrichsville	1884
Gruwell, J. P.	Damascus	1884
Guerin, Z. F.	Columbus	1884
Guittard, E.	New Bedford	1875
Haldeman, J. S.	Zanesville	1885
Halderman, D.	Columbus	1869
Hall, R. B.	Chillicothe	1884
Hall, C.	Burlington	1872
Hall, W. W.	Springfield	1882
Hamilton, J. W.	Columbus	1849
Hammel, M.	Circleville	1878
Harrison, Eugene B.	Napoleon	1869
Hart, B. F.	Marietta	1854
Hart, C. S.	Lincoln, Neb	1877
Hartman, S. D.	Tippecanoe City	1874
Hathaway, H.	E. Toledo	1874
Hedges, W. B.	Delaware	1878
Heffner, C. W.	Bellefontaine	1885
Heiter, Carl.	Sandusky	1875
Heistand, E. B.	Kenton	1884
Helmick, G. W.	Harrisburg	1878
Henderson, D. W.	Marysville	1856
Henderson, J. P.	Newville	1850
Henderson, R. A.	Upper Sandusky	1865
Hendrickson, Hugh.	Columbus	1868
Herrick, H. J.	Cleveland	1868
Herrick, L. C.	Columbus	1871
Hewetson, A. H.	St. Clairsville	1878
Hill, C. C.	Levering	1884
Hill, N. S.	Neville	1866
Hill, H.	West Alexandria	1867
Hiner, S. B.	Lima	1874
Himes, Isaac N.	Cleveland	1874
Hintzleman, Chas.	Cleveland	1884
Hipple, J. R.	Waldo	1881

NAME.	P. O. ADDRESS.	ADM'D.
Hobson, J. A	Cleveland	1880
Hoff, J. W	Pomeroy	1872
Holliday, B. W	Cleveland	1875
Hoover, C. C	Ross	1880
Hoover, C. M	North Benton	1885
Hough, C. A	Waynesville	1881
Hough, W. S	Cuyahoga Falls	1875
House, A. F	Cleveland	1880
Howard, E. W	Akron	1852
Hughes, M. A	Port Clinton	1877
Hughs, J. H	Delaware	1884
Humiston, W. H	Cleveland	1880
Hunt, W. C	Warren	1884
Hunter, F. S	Ashland	1878
Hurd, A	Findlay	1870
Hueston, R. C	Oxford	1868
Hyatt, E. H	Delaware	1862
Iddings, A. H	Dayton	1879
Ikirt, G. P	East Liverpool	1882
Isham, A. B	Walnut Hills	1871
Jenkins, W. J	Plain City	1880
Jennings, E	Dayton	1867
Jewett, George F	Hilliards	1884
Jewett, W. H	West Cannan	1869
Jewett, H. S	Dayton	1871
Johnson, Homer	Oberlin	1880
Johnson, O	Worthington	1878
Jones, T	London	1878
Jones, T. W	Columbus	1847
Jones, R. E	Gomer	1863
Jones, W. W	Toledo	1849
Jones, J. D	Newburg	1870
Judkins, C. P	Cincinnati	1878
Kay, Isaac	Springfield	1853
Kearney, T. H	Knoxville, Tenn.	1871
Keefer, A. H	Lewis Centre	1884
Kelly, H. R	Galion	1868
Kelly, W. J	Galion	1881
Kemper, A. C	Cincinnati	1871
Kendig, E. V	Haysville	1874

NAME.	P. O. ADDRESS.	ADM'D.
Kerr, John N	Mechanicsburg	1884
Keyt, A. T	Walnut Hills	1850
King, E. L	Ashtabula	1880
King, C. P	Newark	1882
King, E. G	Richwood	1882
King, A. P	London	1882
King, C. W	Cleveland Ins. Asylum	1881
King, John I	Burgh Hill	1884
Kinkead, W. W	Marietta	1884
Kinsman, D. N	Columbus	1864
Kirkley, C. A	Toledo	1874
Kirkpatrick, J. F	Sedalia	1884
Knowlton, A. P	Berea	1870
Koogler, M. A	DeGraff	1884
Krause, Bernard	Cleveland	1880
Krelger, G. L	Lebanon	1884
Kurz, C. E	Bellaire	1875
Landis, H. G	Columbus	1878
Larimore, F. C	Mt. Vernon	1871
Lash, H. M	Athens	1879
Lash, J. W	Chillicothe	1879
Lee, E. B	Garretsville	1870
Leonard, B. B	West Liberty	1854
Leonard, B. S	West Liberty	1882
Leslie, J. M	Frankfort	1878
LeVan, D. H	Mt. Victory	1879
Lewis, W. C	Rushville	1869
Little, D	Logan	1882
Loving, S	Columbus	1858
Lowman, J. H	Cleveland	1877
Ludington, H	Omaha, Neb	1871
Lyman, C. N	Wadsworth	1852
Mack, John	Shelby	1853
Macready, J	Monroe	1885
Mann, H. L	Wapakoneta	1875
Markel, I. F	Mifflin	1881
Marshall, O. W	Jeffersonville	1881
Martin, F. D	East Townsend	1884
Martin, J. T	Green Camp	1884
Martin, G	Adrian, Mich	1877

NAME.	P. O. ADDRESS.	ADM'D.
Mattoon, F. N.	Plain City	1881
McCarty, O. C.	Polk	1858
McCasky, H.	Hamersville	1868
McClure, James	Marietta	1866
McCollum, E. J.	Tiffin	1871
McConnell, D. W.	Marseilles	1884
McConnelly, F. C.	Vermillion	1875
McCurdy, John	Youngstown	1870
McCurdy, S. L.	Dennison	1882
McCullough, J. G.	Bellaire	1868
McDowell, John O.	Delaware	1884
McEbright, T.	Akron	1866
McElwe, S.	Newcastle	1866
McGee, J. B.	Cleveland	1880
McGrew, Henry	Pleasant Ridge	1878
McIlhenny, J. J.	Dayton	1846
McIntire, W.	Millville	1881
McKean, Wm	Dundee	1885
McLean, J. T.	New Philadelphia	1884
McMillen, J. W.	Mt. Vernon	1878
McMurray, A. B.	Marion	1879
McNeeley, J. S.	Hamilton	1885
McNutt, H. E.	Milwaukee, Wis	1877
McPherson, J. T.	Cambridge	1884
Mead, M. L.	Brooklyn Village	1875
Merrill, A. E.	Vermillion	1876
Merriman, E. O.	Conneaut	1884
Merriman, D. J.	Painesville	1884
Merriman, C. R.	Akron	1882
Metzler, A. S.	Buena Vista	1874
Mills, J. T.	Jersey	1878
Miller, A. C.	Cleveland	1858
Miller, C. A.	Cincinnati	1871
Millikin, B. L.	Cleveland	1885
Millikin, C. W.	Middleburgh	1885
Millikin, Dan	Hamilton	1879
Montgomery, H. B. B.	Gilboa	1881
Moore, A. C.	Amelia	1869
Moore, D. D.	Xenia	1879
Moore, J. L.	Moscow	1879

NAME.	P. O. ADDRESS.	ADM'D.
Moore, James	Ironton	1872
Moore, L. G.	Kinsman	1878
Moore, William	New Lisbon	1865
Morris, Jonathan	Ironton	1853
Morris, Joseph	Columbus Grove	1879
Morse, D. A.	Oxford	1868
Mory, J. J.	St. Henry	1871
Mory, D. B. Jr.	Wilmington	1884
Mosgrove, Jas. M.	Urbana	1884
Mounts, J. L.	Morrow	1860
Murbach, A. J.	Archibald	1874
Murphy, J. A.	Cincinnati	1872
Murray, L. S.	Medina	1870
Muscroft, C. S.	Cincinnati	1854
Myers, Benjamin	Ashland	1874
Myers, I. A.	Shelby	1881
Nash, W. H. H.	Columbus	1874
Nau, J. G.	Carroll	1878
Neil, Alexander	Columbus	1868
Nelson, H. W.	Steubenville	1878
Newman, J. E.	Gilboa	1880
Nolen, J. G.	Toledo	1874
Norman, Frank	Columbus	1873
Norris, T. B.	Alton	1882
Nunemaker, H. B.	Phil. Pa. Ins. Asyl.	1875
Ogan, Ambrose	Sedalia	1884
Palmer, C. D.	Cincinnati	1871
Patterson, A. V.	Mansfield	1861
Patterson, James W.	Olena	1885
Pearce, Enoch, Jr.	Steubenville	1859
Pearce, H. C.	Urbana	1867
Pennell, W. W.	Fredericktown	1884
Perrier, John	Cleveland	1884
Petitt, R. R.	Dayton	1885
Pickard, P.	Mt. Vernon	1878
Pomerene, P. P.	Berlin	1870
Pomeroy, F. S.	Montville	1884
Pomeroy, O.	Chardon	1869
Pope, F. F. H.	Dalton	1885
Powell, W. S.	Defiance	1881

NAME.	P. O. ADDRESS.	ADM'D.
Preston, J. C	Cleveland	1857
Price, Joseph	Randolph	1852
Priest, S. C	Newark	1878
Primrose, J. P	Nelsonville	1872
Pullen, G. W	Logan	1864
Quinn, A. T	Wilmington	1881
Rabe, B. A	Cleveland	1880
Rankin, T. W	Kirkersville	1881
Ranney, S. W	Hope	1878
Ransohoff, Joseph	Cincinnati	1879
Reamy, T. A	Cincinnati	1855
Reed, C. H	Toledo	1873
Reed, C. A. L	Hamilton	1881
Reed, E. J	Leipsic	1878
Reed, R. C. S	Jones' Station	1867
Reed, R. Harvey	Mansfield	1884
Reed, Wm	Iberia	1865
Reeve, J. C	Dayton	1861
Rice, J. B	Fremont	1868
Rice, Robert H	Fremont	1880
Richards, F. B	Lake	1884
Richardson, D. W	DeGraff	1884
Ricketts, E. S	Portsmouth	1884
Ricketts, B. M	Columbus	1882
Ridgway, N. B	Galion	1878
Riggs, J. U	Bryan	1873
Robinson, J. D	Wooster	1856
Rogers, J. H	Springfield	1859
Rosenwasser, M	Cleveland	1880
Row, G. T	Circleville	1881
Rupp, Samuel M	Warren	1884
Russ, R. C	Hillsboro	1880
Russell, E. S	Tuscarawas	1840
Russell, J. W	Mt. Vernon	1848
Ryan, George W	Cincinnati	1884
Sadler, J	Columbus	1878
Sabine, A	Marysville	1882
Sager, J	North Washington	1882
Santee, Leon B	Marlborough	1885
Sapp, C. E	Gambier	18[illegible]

NAME.	P. O. ADDRESS.	ADM'D.
Sattler, Robert	Cincinnati	1872
Saunders, H	Oxford	1879
Saxton, O. H	Washington C. H	1884
Saylor, Wm	Gratis	1871
Scarf, W. D	Bellefontaine	1855
Scheibenzuber, A	Dayton	1885
Schnetzler, H. M	Toledo	1874
Schueller, J. B	Columbus	1869
Scott, A. C	Bladensburg	1884
Scott, B. B	Mt. Vernon	1884
Scott, Daniel A	Akron	1884
Scott, W. A	Swanton	1878
Scott, W. J	Cleveland	1855
Scott, Xenophon C	Cleveland	1874
Scoville, S. S	Lebanon	1859
Seeley, W. W	Cincinnati	1871
Seys, Henry H	Springfield	1885
Sharp, B. M	Sidney	1885
Sharp, H. J	London	1882
Sheldon, S. B	Five Mile	1882
Shepherd, W. W	Hillsboro	1871
Sinnett, E	Granville	1850
Skinner, S. W	Toledo	1881
Slocum, C. E	Defiance	1874
Smith, D. B	Cleveland	1870
Smith, J. M	New Philadelphia	1884
Smith, H. L	Bloomingburg	1878
Smith, S. H	Warren	1880
Smith, William G	Palmyra	1885
Snodgrass, J	Kenton	1878
Snyder, C	West Jefferson	1881
Snyder, D. J	Scio	1850
Snyder, S. P	New Bedford	1882
Souders, Samuel	Dayton	1879
Southard, J. M	Marysville	1860
Southard, J. Q	Raymond	1882
Speer, A. T	Newark	1878
Spees, S. J	Hillsboro	1863
Spencer, E. R	Doylestown	1885
Spooner, H. R	Republic	1880

NAME.	P. O. ADDRESS.	ADM'D.
Sprague, James	London	1866
Stanley, E	Sandusky	1870
Stark, W	Cincinnati	1871
Stansell, J. A	Forest	1866
Starch, A. B	Milan	1880
Stephens, Alfred H	N. M. Home, Dayton	1884
Stephenson, J. H	Leesville	1860
Stevens, E. B	Lebanon	1853
Steward, S. H	Columbus	1869
Stewart, T. H	Church Hill	1877
Stillwell, Thomas	Fremont	1857
Stockstill, J. N	New Carlisle	1867
Stockton, Geo	Columbus	1881
Storey, William	Castalia	1884
Strain, A. J	London	1881
Sturgeon, S. H	Ada	1882
Sweney, R. L	Marion	1859
Tauber, B	Cincinnati	1876
Taylor, W. H	Cincinnati	1874
Telfair, Geo. M	Bloomington	1884
Thomas, F. W	Marion	1884
Thompson, J. C	South Bloomfield	1848
Thompson, J. T	Rollersville	1881
Thorn, E. J	Yellow Springs	1878
Thorn, S. S	Toledo	1873
Tichnor, E. J	Lebanon	1869
Tipton, T. C	Williamsport	1878
Todd, Frank H	Painesville	1880
Tracy, J. L	Toledo	1884
Trimble, R. T	New Vienna	1881
Turney, Joseph	Nevada	1864
Uhler, H. L	Marion	1885
Underhill, J. W	Cincinnati	1874
Underwood, A	London	1869
Vail, J. B	Lima	1885
Vanatta, E	Fultonham	1855
Vance, R. A	Cleveland	1881
Van Winkle, N. B	Blanchester	1885
Vickers, G. W	Wapakoneta	1882
Vigor, F. A	New Dover	1884

NAME.	P. O. ADDRESS.	ADM'D.
Voorhees, S. R.....	Mason.....	1873
Wagenhals, F.....	Columbus.....	1885
Waggoner, Joseph.....	Ravenna.....	1870
Walker, A. B.....	Canton.....	1882
Wallace, John.....	Rushsylvania.....	1879
Wallace, J. P.....	Bellefontaine.....	1879
Ward, W. A.....	Conneaut.....	1880
Warner, A. D.....	Fullerton.....	1880
Warner, Frank.....	Columbus.....	1884
Watson, D.....	Bellefontaine.....	1882
Weaver, J. M.....	Dayton.....	1865
Webster, E. W.....	Kingsville.....	1876
Weed, T. A.....	Cleveland.....	1880
Weeks, O. W.....	Marion.....	1884
Welsh, J. M.....	Deersville.....	1873
Wellons, G. S.....	Barnesville.....	1878
Wells, Edward F.....	Minster.....	1884
West, John E.....	St. Clairsville.....	1884
West, T. J.....	Tiffin.....	1875
Whistler, H.....	New Antioch.....	1881
Whittaker, J. T.....	Cincinnati.....	1871
Wilbur, A. M.....	West Unity.....	1874
Wilkins, John A.....	Delta.....	1874
Wilson, D. C.....	Ironton.....	1872
Wilson, E. J.....	Mt. Vernon.....	1884
Wilson, J. L.....	Greenfield.....	1871
Wilson, W H.....	Greenfield.....	1865
Williams, A. L.....	North Lewisburg.....	1885
Williams, A. S.....	Fostoria.....	1852
Williams, E.....	Cincinnati.....	1856
Williams, J. L.....	Cardington.....	1878
Winslow, J. W.....	Spring Mountain.....	1881
Wire, G. W.....	Wilmington.....	1885
Wise, D. B.....	Mt. Eaton.....	1881
Wise, S. P.....	Millersburg.....	1875
Woods, J. T.....	Toledo.....	1862
Wood, J. S.....	Collingwood.....	1880
Woodruff, L.....	Alton.....	1867
Woods, J. R.....	Warren.....	1871
Woodward, W. R.....	Cincinnati.....	1871

NAME.	P. O. ADDRESS.	ADM'D.
Wright, John A.	Toledo	1885
Wright, John W	Columbus	1885
Wright, S. St. J	Tallmadge	1880
Wylie, J. L.	Ripley	1872
Yost, W. N.	Mt. Blanchard	1879
Zenner, Philip	Cincinnati	1882
Zeigler, H. H.	Ayersville	1884

HONORARY AND CORRESPONDING MEMBERS.

Professor Ferdinand Hebra, Vienna, Austria.

Professor Isidore Neumann, Vienna, Austria.

Professor Herman Weiderhofer, Vienna, Austria.

Professor Carl Sigmund, Vienna, Austria.

Professor Hermann Zeissl, Vienna, Austria.

Professor Ed. C. Seaton, Medical Inspector of the Privy Council, London, England.

Professor M. Jules Guerin, Member Imperial Academy of Medicine, Paris, France.

HONORARY MEMBERS.

NAME.	P. O. ADDRESS.	ELECT'D.
*Awl, W. M.	Columbus	1872
*Bailey, M. J.	New York City	1852
*Baron, P.	Ravenna	1870
Bartholow, Roberts	Philadelphia, Pa	1879
Beeman, P.	Sidney,	1872
Blackburn, J. C.	Covington, Ky	1857
*Boerstler, G. W.	Lancaster,	1865
Brodie, Wm	Detroit, Mich	1875
*Brower, J. H.	Lawrenceburg, Ind	1854
*Childs, H. H.	Pittsfield, Mass	1848
*Conant, H.	Maumee City	1874
Dalton, N.	Mineral Point, Wis	1871
Gundry, Richard	Catonsville, Md	1879
*Guthrie, C. B.	New York City	1849
Harding, M. H.	Lawrenceburg, Ind	1854
Haughton, R. E.	Richmond, Ind	1863
*Hayes, I. I.	Philadelphia, Pa	1857
*Hempstead, G. S. B.	Portsmouth,	1872
Hibberd, James F.	Richmond, Ind	1871
Hill, E. L.	Oxford,	1856
Hunt, S. P.	Richmond, Ind	1866
Jenks, E. W.	Detroit, Mich	1875
Kerr, John	Canton, China	1875
*Kirtland, Jared P.	Cleveland,	1874
Kitchen, J. M.	Indianapolis, Ind	1866
*Knight, J.	New Haven, Ct	1849
*Lee, Charles A.	New York City,	1848
Lyons, W. B.	Huntington, Ind	1866
*McIlvaine, R. R.	New York City,	1871
*Moe, L. W.	Ottawa,	1876
*Mussey, R. D.	Cincinnati,	1865
Noyes, J. F.	Detroit, Mich	1875
*Parker, Willard	New York City,	1852
Safford, E. D.	Parkersburg, W. Va	1870
Steele, H. K.	Denver, Col	1872
Stevenson, J. M.	Pittsburgh, Pa	1866
Sutton, George	Aurora, Ind	1854
Sutton, R. S.	Pittsburgh, Pa	1884
*Thompson, Robert	Columbus,	1865
*Trevitt, Wm	Columbus,	1858
Tully, Wm	New Haven, Ct	1849

* DECEASED.

CONSTITUTION AND BY-LAWS

OF THE

OHIO STATE MEDICAL SOCIETY.

ADOPTED AT COLUMBUS, OHIO, JUNE 14, 1882.

ARTICLE I.

TITLE OF THE SOCIETY.

The name of this Association shall be "THE OHIO STATE MEDICAL SOCIETY."

ARTICLE II.

OBJECTS OF THE SOCIETY.

The objects of this Society shall be the advancement of medical knowledge; the elevation of professional character; the protection of the professional interests of its members; the extension of the bounds of medical science; and the promotion of all measures adapted to the relief of the suffering, the improvement of the health, and the protection of the lives of the community.

ARTICLE III.

MEMBERS OF THE SOCIETY.

SEC. 1. The Society shall consist of Delegates, Permanent Members and Honorary Members.

SEC. 2. Delegates shall receive their appointments from the county, or other local societies: *Provided,* however, that the officers of these Societies and the Chairmen of all Committees who have reports to present, shall be Delegates *ex-officio.*

SEC. 3. Delegates from other State and foreign societies, before admission to a seat in this Society, shall produce a certificate of delegation, signed by the President or Secretary of their Society.

SEC. 4. Delegates from Auxiliary Societies, before admission to a seat in this Society, shall produce a certificate of delegation, signed by the President or Secretary of their Society, and shall, after having complied with the Requirements or provisions of Sec. 5, Art. III., become Permanent Members of the Society.

SEC. 5. Permanent members shall be regular practitioners of medicine in the State of Ohio, shall be graduates of a medical college in good standing, shall be members of a county or district Society where they reside, and their election shall require a majority vote at a regular meeting, their eligibility having been previously reported upon favorably by the Committee on Admissions. Every applicant for permanent membership shall deposit with the Treasurer the sum of $3.00 as a membership fee, and also the dues for the current year (which sums shall be returned to him if his application is rejected). Permanent members alone shall transact the legislative business of the Society. Permanent members who may remove from this State shall, upon their request, be styled Non-Resident permanent Members, and shall, without payment of dues, be entitled to all the rights and privileges of Honorary Members. Non-payment of dues for three years shall work a forfeiture of membership.

SEC. 6. The society may elect eminent physicians as Honorary Members. Those elected in any year shall not exceed six.

SEC. 7. Honorary Members and invited guests shall have the privileges of a seat at the meetings, of presenting papers, and of taking part in the discussions, but they shall not vote on any question, nor be eligible to any office. Papers read by them require a special vote by the Society, of reference to the Committe on Publication, in order to appear in the published Transactions.

SEC. 8. The names of all Permanent Members in good standing, and of all Honorary Members, shall be published annually in the Transactions.

ARTICLE IV.

AUXILIARY SOCIETIES.

SEC. 1. Any county, or other local, medical Society, whose constitution embraces the objects of this Constitution and the Code of Ethics of the American Medical Association, may, upon application, become auxiliary to this Society, and shall be entitled to one delegate for every five members, and one for every additional fraction of more than half that number.

SEC. 2. Every auxiliary Society shall enforce the observance by its members of the Code of Ethics adopted by this Society; and shall be authorized to censure, suspend, or expel any member convicted of violating its provisions.

SEC. 3. Any member of an auxiliary Society who shall feel aggrieved at the action of such Society in enforcing discipline among the members, shall have the right to appeal to this Society.

SEC. 4. The Secretary of each Auxiliary Society, not less than one month preceding each annual meeting of this Society, shall make a full and correct catalogue, with post-office address, of its officers and members in good standing at that time, together with a certified list of its Delegates, and transmit the same at once to the Secretary of this Society. If the name of a member is omitted from this catalogue that was contained in the last preceding catalogue, the Secretary must explain the omission by stating whether the member, whose name is omitted, is dead, has withdrawn, has removed, been expelled, or suspended. Any Auxiliary Society that fails to comply with this requirement shall be held to be in contempt, and none of its members shall be allowed to participate in the business of this Society, or be entitled to any of its rights or privileges, until such Society shall have purged itself of the contempt.

SEC. 5. In case of the death of any of its members, who are also members of this Society, it shall be the duty of the Secretary of each Auxiliary Society to transmit to the Secretary of this Society a suitable obituary notice for publication.

ARTICLE V.

OFFICERS.

SEC. 1. The officers of this Society shall be a President, four Vice-Presidents, Secretary, Assistant Secretary, and a Treasurer and Librarian.

SEC. 2. The officers shall be elected by a ballot vote of a majority of all the members present, shall enter upon their duties at the close of the meeting at which they were elected, and shall serve one year, or until their successors are elected.

SEC. 3 All vacancies in office, occurring in the interim of the meetings, shall be filled by appointment of the President.

ARTICLE VI.

DUTIES OF OFFICERS.

SEC. 1. The President shall preside over the meetings, preserve order, call meetings when in his judgment the interest of the Society may require, deliver an address, and perform such other duties as custom and parliamentary usage may require.

SEC. 2. The Vice-Presidents shall assist the President in the performance of his duties, and, in his absence, preside over the meetings, in the order of their seniority.

SEC. 3. The Secretary shall keep correct minutes of the proceedings of the Society, and prepare and furnish the same to the Committee on Publication, for publication in the Transactions, notify Committees and Society Delegates of their appointment, take charge of all manuscripts, papers, etc., read at the various meetings, and transfer the same to the Committee on Publication for publication; give due notice of the annual meetings, conduct all business correspondence, give official notice to all Auxiliary Societies of resolutions etc., passed by this Society that have reference to the said Societies, and also notify them of the time for making their reports to this Society, and perform all other duties which the common usage of other corporate or organized bodies may require. His salary shall be $75 per annum.

SEC. 4 The Assistant Secretary shall assist the Secretary in the performence of his duties as the latter may require, and act for him in his absence. His traveling and hotel expenses shall be borne by the Society.

SEC. 5. The Treasurer and Librarian shall receive all moneys due the Society, pay all bills countersigned by the Secretary, keep a correct, itemized account of all receipts and expenditures, with all vouchers, and make a full report of the same at each annual meeting. He shall have charge of all books, manuscripts (not specially belonging to the Secretary), instruments, specimens, preparations, and other scientific property belonging to the Society, keeping a complete catalogue of the same, and report the condition of this department at the annual meeting. He shall give bond for the faithful performance of his duties, in the sum of twice the amount of money in his possession, with two sureties, said bond to be deposited with the Secretary. His salary shall be $75 per annum.

SEC. 6. The officers shall deliver all records, books, funds and other property belonging to their several offices, to their successors, when the latter shall enter upon the discharge of their respective duties.

ARTICLE VII.

COMMITTEES.

The Committees of this Society shall be Standing and Temporary. Standing Committees are those whose duties continue from year to year. They shall each consist of five members, and, unless otherwise specified, shall be elected by the Society, one member being elected each year, except the first year, when one member shall be elected for five years, one for four, one for three, one for two, and one for one year. The Standing Committees shall be: Committees on Arrangements, Finance, Admissions and Medical Societies, Ethics, Publication, and Medical Legislation. Temporary Committees are those whose functions cease with the meeting at which they are appointed. They shall be appointed by the President, as the necessity for their existence arises.

ARTICLE VIII.

STANDING COMMITTEES AND THEIR DUTIES.

SEC. 1. The Committee on Arrangements shall, if no sufficient reason prevent, be mainly composed of members at the place where the next annual meeting is to be held. It shall provide suitable rooms and accommodations for the meeting, and, in all matters not otherwise provided for, superintend and protect the general interests of the Society. This Committee shall be appointed annually by the President.

SEC. 2. The Committee on Finance shall superintend the monetary affairs of the Society, inspect and audit all bills and accounts of the Treasurer, examine and determine the amount, and make such assessment, by a *pro rata* tax upon the Permanent Members, as may be necessary for incidental expenses, and perform such other duties as may devolve upon it.

SEC. 3. The Committee on Admissions and Medical Societies shall examine and pass upon the qualifications of Delegates, and the applications for admission of Auxiliary Societies, and perform such other duties as may devolve upon it.

SEC. 4. The Committee on Ethics shall examine and report for the action of the Society, all cases of appeal from the Auxiliary Societies, and such other matters as may be referred to it by the Society. If any member shall be charged, in writing, with any violation of the provisions of this Constitution and By-Laws, or with unprofessional conduct, a copy of such charge shall be furnished to him by the Secretary, and himself and accuser cited to appear, when the Committee shall proceed to hear the case, reserving its decision to be reported to the Society; except that any case may be referred to an Auxiliary Society for adjudication, and from the decision of the auxiliary Society an appeal may be carried to this Society. Reports from this Committee, when unanimous, shall be acted upon without debate.

SEC. 5. The Committee on Publication, of which the President and Secretary shall be members *ex-officio*, shall examine all papers presented to the Society, and have

printed in the Transactions such as it deems worthy of publication.

SEC. 6. The Committee on Legislation shall watch the course of State legislation on medical subjects, and take charge of such matters as shall be referred to it by the Society. All proposed legislation offered by any member of this Society, and all resolutions touching medical legislation, shall be referred to this committee, which shall make a report thereon to this Society as soon as possible. It shall also, at each annual meeting, report to the Society any laws relating to medical matters that may have been passed within the year.

SEC. 7. The Standing Committees shall keep regular minutes of their proceedings, and furnish an authenticated copy thereof, to be deposited with the Librarian.

ARTICLE IX.

DELEGATES.

SEC. 1. The Delegates appointed by the Society to the American Medical Association, or to other Societies, shall report briefly, in writing, through their Chairman, such items of general interest as may have claimed the attention of the bodies to which they were respectively delegated.

ARTICLE X.

MEETINGS.

Sec. 1. The meetings of this Society shall be annual, and shall occur at such time and place as the Society may appoint. Provided, that special meetings may be called at any time by the President, and shall be so called by him on the written request of twenty-five members. Due notice of all the meetings shall be given by the Secretary, and in case of a special meeting, the object for calling said meeting shall be distinctly set forth in the notice.

SEC. 2. Fifteen permanent members shall constitute a quorum for the transaction of business.

ARTICLE XI.

CODE OF ETHICS.

The Society adopts, as a part of its regulations, the Code of Ethics of the American Medical Association.

ARTICLE XII.

AMENDMENTS.

Every proposal for amending the Constitution shall be made in writing; and, if such amendment receive a majority of four-fifths of the Permanent Members present, it shall be adopted, but otherwise the amendment shall lie over until the next meeting, when it may be adopted by a majority of two-thirds of the Permanent Members present.

ARTICLE XIII.

Nothing in this Constitution shall be so construed as to deprive anyone now a member of this Society, of any rights or privileges held by him before the adoption of this Constitution, unless voluntarily surrendered by him.

BY-LAWS.

I.

ORDER OF BUSINESS.

1. The President, or in his absence one of the Vice-Presidents, shall call to order; or, in case of the absence of all these officers, a chairman shall be appointed *pro tempore.*

2. Reading of minutes. Report of the Committee of Arrangements (on first day).

3. President's address (afternoon of second day).

4. Election of officers (afternoon of second day).

5. Selection of a place for the next meeting (afternoon of second day).

6. Business which requires early consideration.

7. Reports of Standing Committees.

8. Reports from delegates to the American Medical Association, and other Societies.

9. Written communications on medical subjects (papers).

10. Oral communications.

11. New business.

12. Unfinished and miscellaneous business.

13. Adjournment.

II.

In filling blanks, the longest time and the largest sum shall be first put.

III.

Any three Permanent Members may call for the ayes and noes.

IV.

All questions of order, not especially provided for, shall be decided according to Cushing's Manual of Parliamentary Practice.

V.

Not to exceed thirty minutes shall be allowed for the reading of any paper.

VI.

No paper shall occupy over thirty pages of the Transactions.

VII.

All reports, papers and addresses presented to this Society by its members are the property of the Society, and shall be referred, without motion and without recommendation, to the appropriate committee; and it shall be considered a misdemeanor for the author of any such report or paper to permit the same to be published except as authorized by special vote of the committee or the Society.

VIII.

No speaker shall be allowed to speak a second time, on the same subject, without the consent of the Society.

IX.

The time allowed each speaker shall not exceed ten minutes, except by general consent.

X.

The motion to adjourn, to lie on the table, or for the previous question, shall be decided without debate.

XI.

The motion for the Previous Question, if decided in the negative, shall have no effect on the main question.

XII.

Any of these by-laws may be suspended at any time by a three-fourths vote of the Permanent Members present. Every proposed amendment must be offered in writing; if it receive a four-fifths vote of the Permanent Members present, it shall be adopted; but otherwise it shall lie over until the next meeting, when it may be adopted by a majority of two-thirds of the Permanent Members present.

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